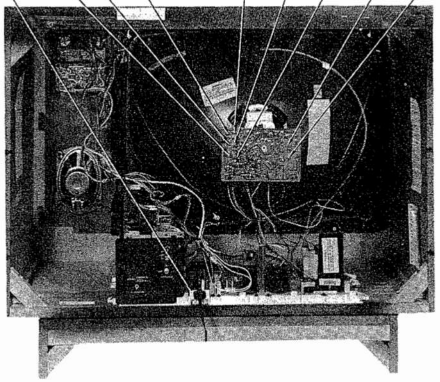


CABINET—REAR VIEW

DISASSEMBLY INSTRUCTIONS

CHASSIS REMOVAL

Remove seven screws and release latches holding cabinet back and remove back. Disconnect speaker and antenna connectors. Channel readout may be removed at this point of disassembly. Release two latches holding readout to cabinet front and remove assembly from cabinet. Disconnect HV anode, CRT socket, deflection yoke connectors, degaussing coil connector and ground leads. Remove one screw holding remote receiver tuning selector panel assembly to cabinet front and remove assembly from cabinet. Remove six screws holding main board assembly to cabinet bottom and slide assembly out of cabinet.

CRT REMOVAL

Follow "Chassis Removal" procedure and lay set facedown on a soft protective surface. Loosen and remove CRT neck assemblies. Remove four screws holding CRT to cabinet front and lift CRT out of cabinet. Do not lift CRT by the neck.

SERVICING IN THE FIELD

CRT IMPLOSION PROTECTION AND CLEANING

Implosion protection is an integral part of the picture tube, cleaning accomplished without CRT removal.

FUSE DEVICES

A 5-amp fuse is used for AC line protection. (See photo, Cabinet-Rear View.)

VHF/UHF TUNER

Ten numbered buttons are provided for two digit entry channel selection with CH (channel up) and CH (channel down) buttons provided for channel scanning. Fine tuning is automatic. No pretuning.

HORIZONTAL OSCILLATOR

Adjustment of the horizontal hold is accomplished by the proper setting of the horizontal frequency.

FOCUS

The focus may be varied by a focus control. (See photo, Cabinet-Rear View.)

AGC

The AGC may be varied by AGC Delay control. (See photo, Chassis-Top View.)

CENTERING

Horizontal centering is accomplished by proper adjustment of the horizontal centering control. (See photo, Chassis-Top View.)

Vertical centering is accomplished by proper adjustment of the vertical centering control. (See photo, Chassis-Top View.)

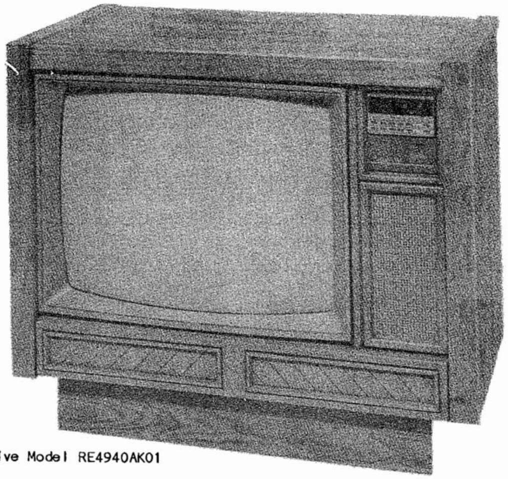
SAMS PHOTOFACT®

MAGNAVOX

For Supplier Address See PHOTOFACT Index

Master

MAGNAVOX CHASSIS 25C501/03/04/07/10/14/19/20/21/24/25/26/27/28/30/32/33/34/35/36/37/39/44/45/46/50/51/52/55/56/57/59/61/62



Representative Model RE4940AK01

SAFETY PRECAUTIONS

See Page 1.

SERVICE INFORMATION

See Page 1.

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SAMS™ Howard W. Sams & Company
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The listing of any available replacement part herein does not constitute in any case a recommendation, warranty or guaranty by Howard W. Sams & Co. as to the quality and suitability of such replacement part. The numbers of these parts have been compiled from information furnished to Howard W. Sams & Co. by the manufacturers of the particular type of replacement part listed.

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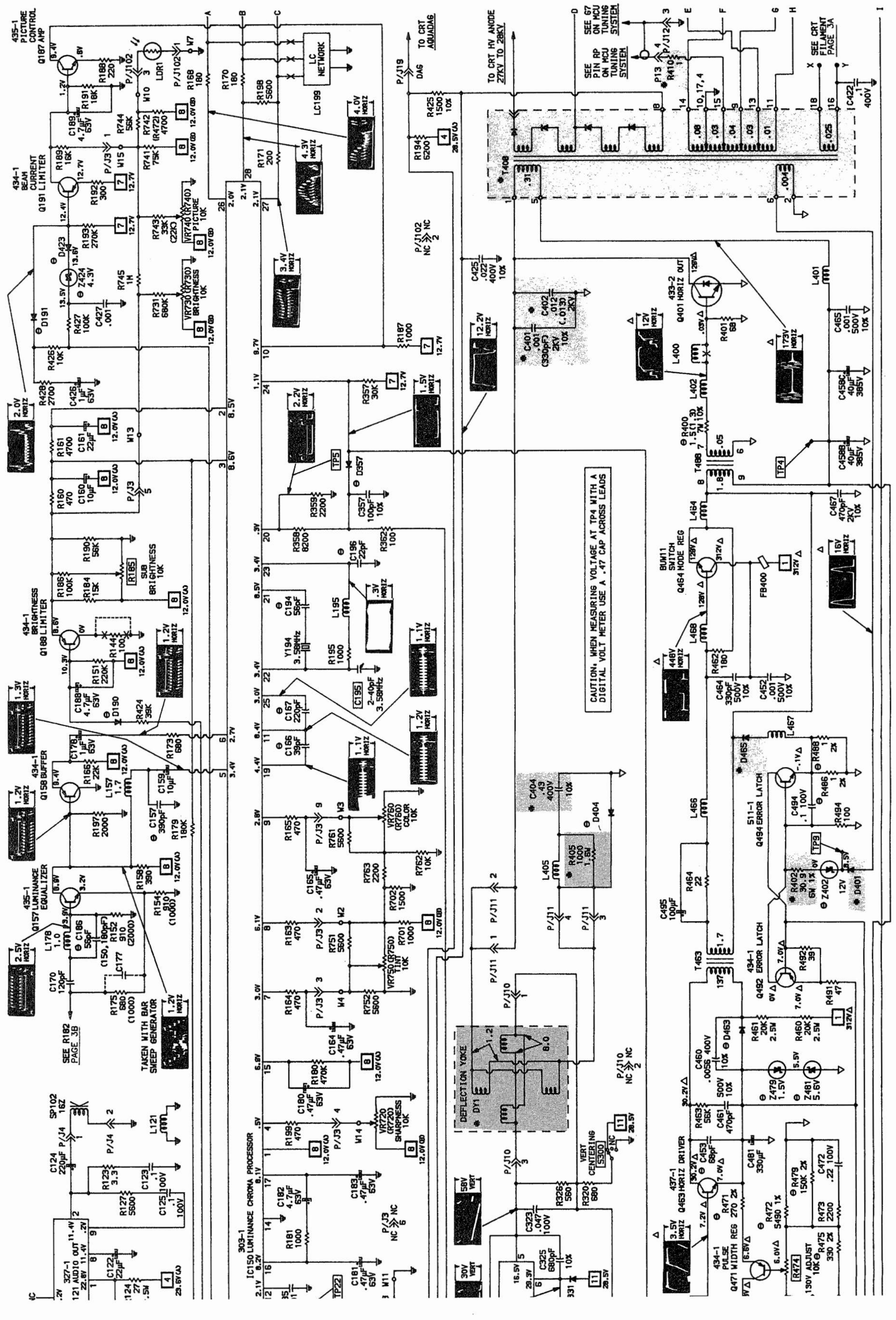


SET 2466 FOLDER 2

SAFETY PRECAUTIONS

NAPCEC SAFETY GUIDELINES FOR THE PROFESSIONAL SERVICE TECHNICIAN

Safety Checks

After the original service problem has been corrected, a complete safety check should be made. Be sure to check over the entire set, not just the areas where you have worked. Some previous servicer may have left an unsafe condition, which could be unknowingly passed on to your customer. Be sure to check all of the following.

Fire and Shock Hazard

1. Be sure all components are positioned in such a way as to avoid possibility of adjacent component shorts. This is especially important on those chassis which are transported to and from the service shop.
2. Never release a repaired receiver unless all protective devices such as insulators, barriers, covers, strain reliefs, and other hardware have been installed according to the original design.
3. Soldering and wiring must be inspected to uncover possible cold solder joints, solder splashes, or sharp solder points, frayed leads, pinched leads, or damaged insulation (including ac cord). Be certain to remove loose solder balls and all other loose foreign particles.
4. Check across-the-line components and other components for physical evidence of damage or deterioration and replace if necessary. Follow original layout, lead length and dress.
5. No lead or component should touch a receiving tube or a resistor rated at 1 watt or more. Lead tension around protruding metal surfaces or edges must be avoided.
6. All critical components (shaded gray on the schematic diagrams and identified by an S in the replacement parts lists) such as fuses, flameproof resistors, capacitors, transistors, etc., should be replaced with exact manufacturer's parts listed in the service information to avoid hazards caused by improper parts. Do not use replacement components other than those specified or make unrecommended circuit modifications.
7. When servicing any receiver, always use a separate isolation transformer for the chassis. Failure to use a separate isolation transformer may expose you to possible shock hazard, and may cause damage to servicing instruments.
8. Many receivers use a polarized line cord (one wide pin on the plug). Defeating this safety device may create a potential hazard to the servicer and the user. Extension cords which do not incorporate the polarizing feature should never be used.
9. After re-assembly of the set, always perform an ac leakage test, or resistance test from the line cord to all exposed metal parts of the cabinet. Also, check all metal control shafts (with knobs removed), antenna terminals, handles, screws, etc., to be sure the set is safe to operate without danger of electrical shock.

Implosion

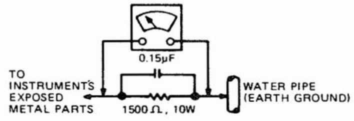
1. All picture tubes used in current model receivers are equipped with an integral implosion system. Care should always be used, and safety glasses worn, whenever handling any picture tube. Avoid scratching or other damage during installation.
2. Use only replacement tubes as specified by the manufacturer.

X-radiation

1. Be sure procedures and instructions to all your service personnel cover the subject of X-radiation. Potential sources of X-rays in TV receivers are the picture tube and the high voltage circuits. The basic precaution which must be exercised is to keep the HV at the factory recommended level.
2. To avoid possible exposure to X-radiation and electrical shock only the manufacturer's specified anode connectors must be used.
3. It is essential that the service technician has available at all times an accurate HV meter. The calibration of this meter should be checked periodically against a reference standard.
4. When the HV circuitry is operating properly there is no possibility of a X-radiation problem. High voltage should always be kept at the manufacturer's rated value — no higher — for optimum performance. Every time a color set is serviced, the brightness should be run up and down while monitoring the HV with a meter to be certain that the HV does not exceed the specified value and that it is regulated correctly. We suggest that you and your service technicians review test procedures so that HV and HV regulation are always checked as a standard servicing procedure, and the reason for this prudent routine be clearly understood by everyone. It is important to use an accurate and reliable HV meter. It is recommended that the HV reading be recorded on each customers' invoice, which will demonstrate a proper concern for the customers' safety.
5. When troubleshooting and making test measurements in a receiver with a problem of excessive high voltage, reduce the line voltage by means of a Variac to bring the HV into acceptable limits while troubleshooting. Do not operate the chassis longer than necessary to locate the cause of the excessive HV.
6. New type picture tubes are specifically designed to withstand higher operating voltages without creating undesirable X-radiation. It is strongly recommended that any shop test fixture which is to be used with the new higher voltage chassis be equipped with one of the new type tubes designed for this service. Addition of a permanently connected HV meter to the shop test fixture is advisable. The CRT types used in these new sets should never be replaced with any other types as that may result in excessive X-radiation.
7. It is essential to use the specified picture tube to avoid a possible X-radiation problem.
8. Most TV receivers contain some type of emergency "Hold Down" circuit to prevent HV from rising to excessive levels in the presence of a failure mode. These various circuits should be understood by all technicians servicing them, especially since many hold down circuits are inoperative as long as the receiver performs normally.

Leakage Current Cold Check

1. Unplug the ac line cord and connect a jumper between the two prongs of the plug.
2. Turn on the power switch.
3. Measure the resistance value between the jumpered ac plug and all exposed metallic cabinet parts of the receiver, such as screwheads, antennas and control shafts. When the exposed metallic part has a return path to the chassis, the reading should be between 1 megohm and 5.2 megohms. When the exposed metal does not have a return path to the chassis, the reading must be infinity. Remove the jumper from ac line cord.



Leakage Current Hot Check

1. Do not use an isolation transformer for this test. Plug the completely re-assembled receiver directly into the ac outlet.
2. Connect a 1.5k ohm, 10 watt resistor paralleled by a 0.15 mfd. capacitor between each exposed metallic cabinet part and a good earth ground such as a water pipe, as shown above.
3. Use an ac voltmeter with at least 5000 ohms/volt sensitivity to measure the potential across the resistor.
4. The potential at any point should not exceed 0.75 volts. A leakage current tester may be used to make this test; leakage current must not exceed 0.5 milliamps. If a measurement is outside the limits specified, there is a possibility of shock hazard. The receiver should be repaired and re-checked before returning it to the customer.
5. Repeat the above procedure with the ac plug reversed. (Note: An ac adapter is necessary when a polarized plug is used. Do not defeat the polarizing feature of the plug.)

Picture Tube Replacement

The primary source of X-radiation in this television receiver is the picture tube. The picture tube utilized in this chassis is specially constructed to limit X-radiation emissions. For continued X-radiation protection, the replacement tube must be the same type as the original, including suffix letter, or a N.A.P. Consumer Electronics Corp. (NAPCEC) approved type.

Parts Replacement

Many electrical and mechanical parts in NAPCEC television sets have special safety-related characteristics. These characteristics are often not evident from visual inspection nor can the protection afforded by them necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. The use of a substitute part which does not have the same safety characteristics as the NAPCEC recommended replacement parts shown in this service manual may create shock, fire or other hazards.

Courtesy of the Manufacturer

SERVICE INFORMATION

Video Buffer/Comb Filter Troubleshooting

The Comb Filter circuit will be incorporated in some models of the C5 Chassis, but will be featured in the majority of the sets produced. Since the C5 Chassis is a single-board unit and the Comb Filter is not a module, troubleshooting must be to the component level. Troubleshooting can be performed in two ways: one is to scope the signal flow through the circuits with a known input signal applied; another method is to measure the dc voltages at key points in the circuits. Both of these procedures are used here for ease of troubleshooting. The Comb Filter and Video circuits require two supply voltages, 12Vdc and 24Vdc, which are derived from IFT pulse rectification. Therefore, the first thing to check is the presence of the 12Vdc and 24Vdc supplies. If these voltages are not present, the power supply must be checked and/or repaired. The next step is to check the voltages of all discrete components listed in the drawing.

Further troubleshooting of the Comb Filter should be performed with the oscillosope. Starting with the video signal at TP1, note that this signal can be seen all the way to the bottom of R167 and Pin 4 of DL152. The p-p voltage of the waveform at TP1 is basically the same level (2Vp-p) from its input on the base of Q153 all the way through to R167. This signal is amplified by Q154. The collector waveform takes on a different appearance at DL152, Pin 2. At Pin 1 of DL152, the waveform appears without the chroma signal present. The chroma on Pins 3 and 4 of the Delay Line are 180° out of phase as illustrated. If the Delay Line is working properly, the chroma signals will cancel at the wiper arm of R167. After the chroma cancels, the combed luminance will be seen as shown above. This signal is amplified and inverted by Q156 to cancel the luminance signal on the collector. The chroma signal is developed by coupling the composite signal from TP1 through C174 and R155 to the collector circuit of Q156. The chroma signal is then bandpass-coupled to pin 13 of IC150.

Troubleshooting the Luminance/Chroma Circuits

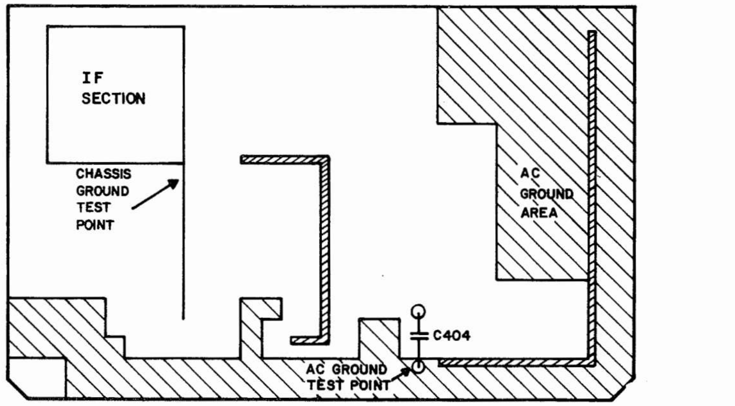
1. Measure the presence of 12Vdc at Pin 1 of IC150.
2. Check for the luminance input signal at Pin 5 of IC150 (0.4Vp-p).
3. Check for the Chroma input signal at Pin 13 of IC150 (0.6Vp-p).
4. Check the proper operation of the Comb Filter circuit with an oscilloscope.
5. Check the RGB output signals on Pins 26, 27, and 28 of IC150 (1Vp-p, 2.4Vp-p, 1.6Vp-p).
6. Check the Burst signal at Pin 20 of IC150 (1.9Vp-p).
7. Check the Blanking signal at Pin 24 of IC150 (1.3Vp-p).
8. If the Brightness Lumiting circuitry is working properly, measure approximately 8.6Vp-p at Pin 3 of IC150.

GROUND SYSTEM

Grounding the Test Equipment

The heatsinks in the chassis should NOT be used for ground connections. To safely use test equipment, attach to the ground shown. Always use the correct ground for the circuit that is being serviced, and don't forget to use an isolation transformer.

25C5 CHASSIS GROUND SYSTEM



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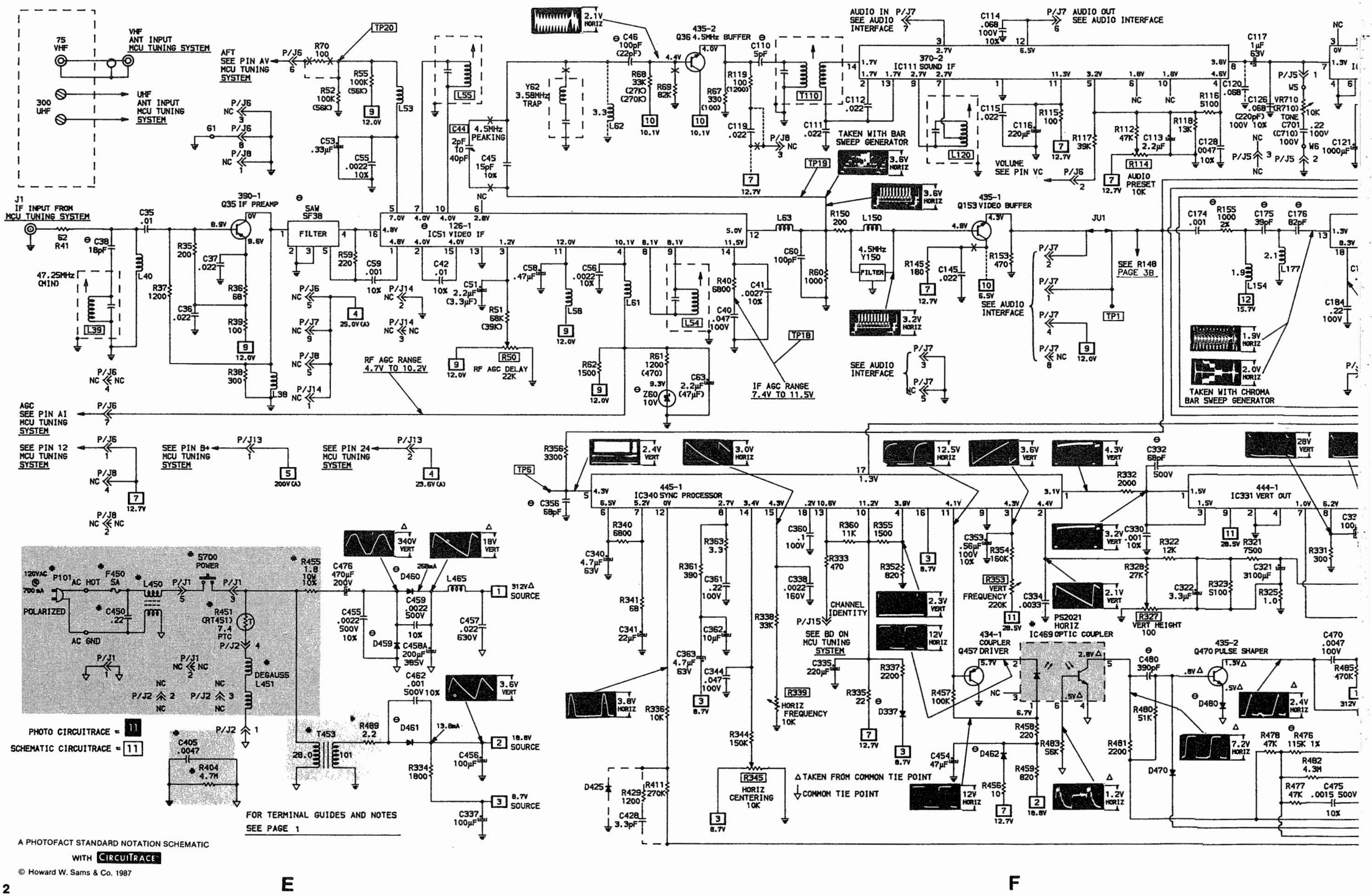

A PHOTOFACT STANDARD NOTATION SCHEMATIC WITH CIRCUITRACE

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TROUBLESHOOTING AID

Note: Waveforms taken with triggered scope, Keyed-Rainbow generator. Schematic voltages measured with digital meter, no signal. Controls adjusted for normal operation.

PICTURE or SOUND

NO PIC, NO SOUND, NO RASTER: Check AC power supply and sources generated from Horizontal Output Transformer (T408). Refer to "Troubleshooting" Power Supply and Horizontal circuits.

NO PIC, NO SOUND, HAS RASTER: Check IF-AGC and source voltages from Horizontal Output Transformer (T408). Refer to "Troubleshooting" IF-AGC and Horizontal circuits.

NO PIC, HAS SOUND, NO RASTER: Check Horizontal Output Transformer (T408) sources and Video circuit. Refer to "Troubleshooting" Horizontal and Video circuits.

NO PIC, HAS SOUND, HAS RASTER: Refer to "Troubleshooting" Video circuit.

HAS PIC, NO SOUND: Refer to "Troubleshooting" Audio circuit.

OVERLOADED PICTURE: Refer to "Troubleshooting" IF-AGC circuit.

LOW OR EXCESSIVE BRIGHTNESS: Check Video and Luminance circuits. Refer to "Troubleshooting" Video circuit.

SWEEP

NO RASTER, HAS SOUND: Check HV rectifier, Part of Horizontal Output Transformer (T408). Refer to "Troubleshooting" Horizontal circuit.

NO RASTER, NO SOUND: Refer to "Troubleshooting" Horizontal circuit.

NO VERT DEFLECTION: Refer to "Troubleshooting" Vertical circuit.

POOR VERT LIN OR FOLDOVER: Refer to "Troubleshooting" Vertical circuit.

POOR HORIZ LIN OR FOLDOVER: Refer to "Troubleshooting" Horizontal circuit.

NARROW PICTURE: Refer to "Troubleshooting" Horizontal circuit.

VERT OFF FREQUENCY: Refer to "Troubleshooting" Vertical circuit.

HORIZ OFF FREQUENCY: Refer to "Troubleshooting" Horizontal circuit.

SYNC

NO VERT/HORIZ SYNC: Refer to "Troubleshooting" Sync circuit.

RASTER

YELLOW (NO BLUE): Check Chroma and Blue Output circuits. Refer to "Troubleshooting" Raster circuit.

CYAN (NO RED): Check Chroma and Red Output circuits. Refer to "Troubleshooting" Raster circuit.

MAGENTA (NO GREEN): Check Chroma and Green Output circuits. Refer to "Troubleshooting" Raster circuit.

COLOR (B/W operating normally)

NO COLOR: Refer to "Troubleshooting" Chroma circuit.

WEAK COLOR: Refer to "Troubleshooting" Chroma circuit.

NO COLOR SYNC: Refer to "Troubleshooting" Chroma circuit.

NO GREEN: Check Chroma and Green Output circuits. Refer to "Troubleshooting" Raster circuit.

NO BLUE: Check Chroma and Blue Output circuits. Refer to "Troubleshooting" Raster circuit.

NO RED: Check Chroma and Red Output circuits. Refer to "Troubleshooting" Raster circuit.

INCORRECT HUE (TINT): Refer to "Troubleshooting" Chroma circuit.

TEST JIG HOOKUP

FUNCTION	Chek-A-Color ADAPTER NO.	RCA / TeleMatic ADAPTER NO.	ZENITH ADAPTER NO.
CRT YOKE YOKE SETTING	B239 D4153(1) YP1, Focus Tap	10J683 10J729(1) Horiz 1.2, Vert 8.0, FVS-3950 Focus Voltage Supply	852-441 852-412(2) Horiz 1.8, Vert 8.0, Focus Tap

(1) If vertical or horizontal sweep is reversed, rotate respective connector 180 degrees.

(2)

P11 PIN 1 & 2	P11 PIN 3 & 4	P10 PIN 1	P10 PIN 3
Red	Blue	Yellow	Green

(P.C. Board)

TROUBLESHOOTING

POWER SUPPLY CIRCUIT DESCRIPTION

When set is turned On, Start-up Diode (D461) develops approximately 19.0V which is applied to Horizontal Optic Coupler IC (IC469), Coupler Driver Transistor (Q457) and Sync Processor IC (IC340). The horizontal signal developed by IC340 is fed to the base of Pulse Shaper Transistor (Q470) by Transistor Q457 and IC469. Simultaneously with the above described events approximately 312V (With respect to isolated ground) is developed at the cathode of Diode D460 as a result of a voltage doubler circuit. The 312V is applied to Horizontal Driver Transistor (Q463), Switch Mode Regulator Transistor (Q464), Pulse Shaper Transistor (Q470) and Pulse Width Regulator Transistor (Q471). As a result these transistors are pulsed into conduction along with Horizontal Output Transistor (Q401) and their operation is sustained by the horizontal signal developed by IC340 being applied to the base of Transistor Q470. When Transistor Q401 is pulsed On, the B+ sources developed from Horizontal Output Transformer (T408) are pulsed into operation and continue to operate provided that the Horizontal Oscillator of IC340, Transistors Q401, Q457, Q463, Q464, Q470, Q471, Error Latch Transistors (Q492, Q494), Transformer T408, Horizontal Driver Transformer (T463), Switch Mode Transformer (T488) and associated circuitry are not defective.

POWER SUPPLY

If there is no raster or sound, check AC Fuse (F450). If Fuse is open, check Diodes D459, D460, Capacitors C450, C455, C457 and Electrolytic C458. If F450 is good, apply 120V AC and check for 120V AC between (Plug P1) pin 3 and isolated ground. If 120V AC is absent, check Line Filter (L450), Power Switch (S700) and associated components. If 120V AC is present at pin 3 of Plug P1, check for 312V at the cathode of Diode D460 and 18.8V at the cathode of Diode D461. If these voltges are absent, check Resistors R455, R489, Start-up Transformer (T453) and Electrolytic C476. If there is 312V at the cathode of Diode D460 and 18.8V at the cathode of Diode D461, refer to the "Horizontal" section of this Troubleshooting guide.

HORIZONTAL

If there is no horizontal sweep, check for 312V at the cathode of Diode D460 and 18.8V at the cathode of Diode D461. If these voltages are absent, refer to the "Power Supply" section of this Troubleshooting guide. If these voltages are present, inject a horioznatl signal at pin 5 of Optic Coupler IC (IC469). If horizontal sweep returns, check voltages, waveforms and components associated with pins 8, 10 thru 16 of Sync Processor IC (IC340), Coupler Driver Transistor (Q457) and IC469. If horizontal sweep does not return, check voltages, waveforms and components associated with Horizontal Output Transistor (Q401), Horizontal Driver Transistor (Q463), Switch Mode Regulator Transistor (Q464), Pulse Shaper Transistor (Q470), Pulse Width Regulator Transistor (Q471), Error Latch Transistors (Q492, Q494), Horizontal Driver Transformer (T463), Switch Mode Transformer (T488), Horizontal Output Transformer (T408) and the Deflection Yoke (DY1). Check for 11.9V at TP9, 200V at the cathode of Diode D408, 12.8V at the cathode of Diode D414, 24.4V at the cathode of Diode D418 and 28.5V at the cathode of Diode D420. Horizontal linearity or foldover problems may be caused by Capacitors C401, C402, C404 and Horizontal Linearity Coil (L405) being defective. If the horizontal oscillator is off frequency, check the voltages, waveforms and components associated with pins 8, 12, 14 and 15 of IC340.

NOTE: If the TV is shutdown the following voltages will be present.

	E	B	C
Q463	1.2V	1.8V	1.2V
Q464	0V	0V	358V
Q470	0V	.3V	1.0V
Q471	1.0V	.4V	1.0V
Q492	.6V	0V	.8V
Q494	0V	.8V	0V

Refer to the High Voltage Shutdown section of this Troubleshooting guide.

MISCELLANEOUS ADJUSTMENTS

COLOR TEMPERATURE ADJUSTMENT

Disconnect IF Input Cable from J1 to obtain a blank raster. Set Brightness, Picture and Color Controls to MINIMUM. Set Tint and Sharpness Controls to midrange and Sub Brightness to Maximum. Set G2 Screen (R255), Blue Cutoff (R248), Red Cutoff (R229), Green Cutoff (R241), Blue Drive (R245), Red Drive (R228) and Green Drive (R233) Controls fully counterclockwise. Short pins 1 and 7 of Vertical Output IC (IC331) to ground. Connect a jumper from W12 to W13 on CRT Socket Board. Adjust G2 Screen Control until a dim line of one color just appears. Disconnect jumper from W12 to W13. Turn Sub Brightness Control clockwise until a dim line of one color appears. Adjust the cutoff controls of the two missing colors to produce a low level white line. Disconnect short from pins 1 and 7 of IC331. Reconnect IF Input Cable to J1 and tune in a picture. Adjust Sub Brightness Control (R185) if necessary for a low level picture. Set Picture Control (VR740) to Maximum and Brightness Control (VR730) to midrange. Adjust Drive Controls for best white in highlights of the picture.

RF AGC DELAY

Tune in a weak station or loosely couple the antenna to obtain a snowy picture. Set RF AGC Delay Control (R50) fully clockwise. Slowly turn RF AGC Delay Control counterclockwise to a point slightly beyond MINIMUM snow.

AUDIO PRESET ADJUSTMENT

Set Volume Control and Audio Preset Control (R114) to MINIMUM. Adjust Audio Preset Control clockwise to a point where sound or noise can just be heard.

130V ADJUSTMENT

Use an isolation transformer for this adjustment. Adjust isolation transformer for 120V AC. Connect DC meter to TP4, low side to pin 1 of Plug (P1). Adjust 130V Adjust Control (R474) for +130V DC ±1V DC.

3.58MHz OSCILLATOR ADJUSTMENT

Connect a color bar generator to the antenna terminals and tune in a color bar pattern. Set Color and Tint Controls to midrange. Connect a jumper from TP22 (Pin 18 IC150) to TP21 (+12.7V source). Connect a jumper from TP5 (Pin 20 IC150) to ground (IF Shield). Adjust 3.58MHz Oscillator (C195) until color stops or slowly drifts.

3.58MHz TRAP ADJUSTMENT

Tune in color bar pattern, connect scope to TP19. Adjust C44 for MINIMUM on scope trace.

HORIZONTAL OSCILLATOR ADJUSTMENT

Tune in a picture and connect a jumper from TP6 to ground. Adjust Horizontal Frequency Control (R339) until picture stops or slowly drifts across the screen. Remove jumper from TP6 and check lock-in on all channels.

HORIZONTAL AND VERTICAL CENTERING

Connect a color bar generator to the antenna terminals and tune in a crosshatch pattern. Adjust Horizontal Centering Control (R345) for proper horizontal centering. Adjust Vertical Centering Switch (S300) to center the crosshatch pattern on the screen.

VERTICAL FREQUENCY ADJUSTMENT

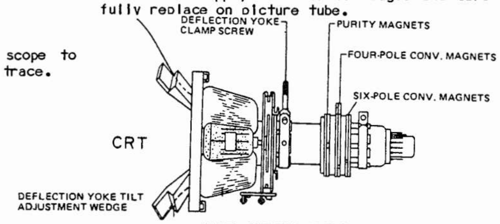
Tune in a station and adjust for a normal picture. Adjust Vertical Frequency Control (R353) until picture locks-in. Check lock-in by switching from channel to channel. If necessary readjust until proper lock-in is obtained.

PURITY ADJUSTMENT

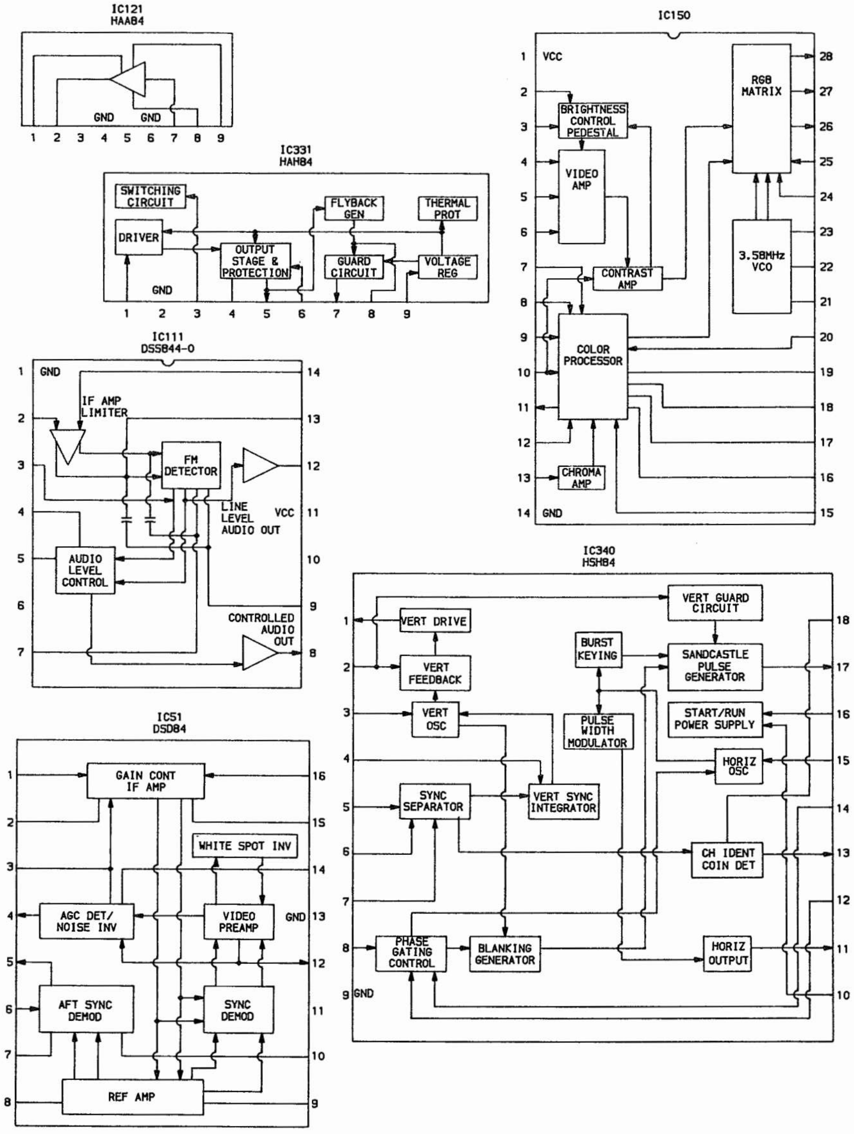
NOTE: Allow 15 minute warm-up. Degauss the picture tube and mounting brackets. Set Picture Control to MINIMUM and adjust Brightness Control for normal brightness. Disconnect Plug from J1 (IF/Input) for a blank raster. Set Green (R241) and Blue (R248) Cutoff Controls fully counterclockwise to obtain a red raster. Loosen the yoke clamp and slide yoke back as close to purity magnet as possible. Rotate and spread the purity magnet tabs until the red band is centered on the screen. Move the yoke slowly forward until a uniform red raster is obtained. Tighten yoke clamp and reconnect Plug at J1 (IF/Input).

CONVERGENCE ADJUSTMENTS

NOTE: Before attempting convergence adjustments the receiver should be operated for at least 15 minutes. Connect a color bar generator to the antenna terminals and tune in a crosshatch pattern. Spread the tabs of the 4-pole magnets to converge the red and blue vertical lines in the center of the screen, rotate the tabs to converge the red and blue horizontal lines at the center of the screen. Spread and rotate the tabs of the 6-pole magnets to converge the red and blue with the green line(s) (horizontal and vertical) at the center of the screen. Remove the rubber wedges from the picture tube. Tilt the yoke vertically and horizontally to converge edges of screen. Apply adhesive to wedges and carefully replace on picture tube.



CRT NECK ASSEMBLY



IC FUNCTIONS

TROUBLESHOOTING (Continued)

HIGH VOLTAGE SHUTDOWN

The High Voltage is monitored by Diode D401, rectifying pulses from High Voltage Transformer (T408). Should the High Voltage increase, the rectified voltage at the cathode of Diode D401 will also increase and at a certain level will trigger Zener Diode (Z402) into conduction. This changes the bias on Error Latch Transistors (Q492, Q494) causing them to conduct which shuts down the set. To troubleshoot a set that has been shutdown, remove Resistor R402 from circuit, use a variac for AC power and troubleshoot until defect is located and corrected. Return Resistor R402 to circuit.

NOTE: Care should be taken in defeating the High Voltage Shutdown circuit as this may cause x-ray radiation and damage to the CRT, High Voltage Transformer T408 and associated components. Monitor the High Voltage and troubleshoot.

IF-AGC

If there is no picture or sound, inject a video IF signal at the IF input and check for a picture on the CRT. If a picture is present, check the Tuner, Tuner Control Board, AGC and AFT circuits. If there is no picture on the CRT, check for a video waveform at TP1. If a waveform is present, refer to the "Video" section of this Troubleshooting guide. If there is no video at TP1, apply AGC bias to pin 14 of Video IF IC (IC51). If video is now present at TP1, check components associated with pin 14 of IC51. If the video is still absent, check voltages, waveforms and components associated with pins 1 thru 5, 7 thru 12, 14, 15 and 16 of IC51. A defective AGC circuit can cause an overloaded picture, excessive snow or loss of picture and sound. See AGC Voltage Chart for voltages that change with signal.

AGC VOLTAGE CHART

Pin 4	IC51	4.3V
Pin 14	IC51	6.3V

AUDIO

If there is no audio, inject a modulated audio IF signal at the emitter of 4.5MHz Buffer Transistor (Q36) and with volume at Maximum, check for sound at the speaker. If there is sound at the speaker, check the voltages and components associated with Transistor Q36. If there is still no sound, inject an audio signal at pin 7 of Audio Output IC (IC121). If sound is now present, check the voltages and components associated with Sound IF IC (IC111). If sound is still absent with a signal injected at pin 7 of IC121, check voltages and components associated with IC121. Check the voltage at pin 5 of IC111, it should measure 3.3V at MINIMUM volume and 3.6V at Maximum volume. If sound is being muted, pin 5 will measure 3.3V.

VIDEO

If there is no video, inject a video signal at TP1 and check for video on the CRT. If video is present, refer to the "IF-AGC" section of this Troubleshooting guide. If video is not present on the CRT, check for a video waveform at pins 5 and 6 of Luminance Chroma Processor IC (IC150). If the waveform is absent, check the voltages, waveforms and components associated with TP1, Luminance Equalizer Transistor (Q157), Buffer Transistor (Q158) and pins 5 and 6 of IC150. If a video waveform is present at pins 5 and 6 of IC150, check the voltages, waveforms and components associated with pins 1, 2, 3, 4, 10 and 15 of IC150. If there is insufficient or too much brightness, check the voltages and components associated with Picture Control Amp. Transistor (Q187), Brightness Limiter Transistor (Q188) and Beam Current Limiter Transistor (Q191).

VERTICAL

If there is no vertical sweep, inject a vertical signal at pin 1 of Sync Processor IC (IC340). If the vertical deflection returns, check the voltages, waveforms and components associated with pins 1, 2 and 3 of IC340. If vertical deflection does not return. Check the voltages, waveforms and components associated with Vertical Output IC (IC331) and the Deflection Yoke (DY1). If the vertical oscillator is off frequency, check the voltages and components associated with pins 1, 2 and 3 of IC340. Vertical linearity or foldover problems may be caused by Electrolytics C321, C322 and C331 being defective.

SYNC

If there is no vertical or horizontal sync, check for a video waveform at TP6. If the waveform is absent, check voltages and components associated with TP6. If there is no vertical sync, check the voltages, waveforms and components associated with pins 2, 3, 6 and 7 of Sync Processor IC (IC340). If there is no horizontal sync, check the voltages and components associated with pins 6, 7 and 15 of IC340.

RASTER

Check the CRT and CRT voltages. If there is no green, check the voltages, waveforms and components associated with pin 27 of Luminance Chroma Processor IC (IC150) and Green Output Transistor (Q240). If there is no blue, check voltages, waveforms and components associated with pin 28 of IC150 and Blue Output Transistor (Q247). If there is no red, check the voltages, waveforms and components associated with pin 26 of IC150 and Red Output Transistor (Q226). If the raster has a keystone shape, check the deflection yoke. If the raster has height or width problems, refer to the "Power Supply", "Vertical" and "Horizontal" sections of this Troubleshooting guide.

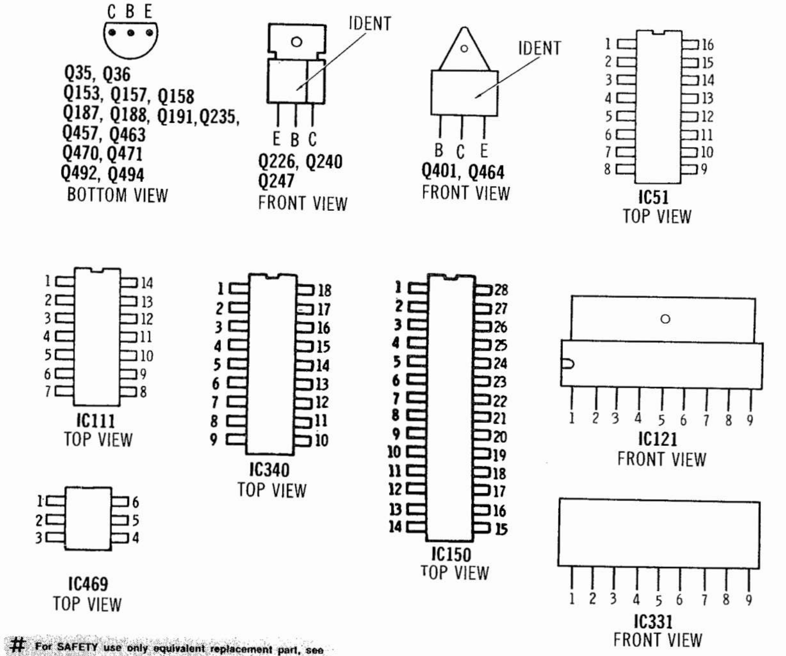
CHROMA

If there is no color, check for a color waveform at pin 13 of Luminance Chroma IC (IC150). If the waveform is absent, check components associated with pin 13 of IC150. If a waveform is present, check for the proper color waveforms at pins 26, 27 and 28 of IC150. If the waveforms are absent, check the voltages, waveforms and components associated with pins 7 thru 12 and 16 thru 28 of IC150. Check the

TROUBLESHOOTING (Continued)

3.58MHz oscillator to be sure it is operating at the proper frequency. If there is no color sync, check the voltages, waveforms and components associated with pins 20, 21, 22, 23 of IC150. If there is incorrect hue (Tint), check the voltage and components associated with pin 7 of IC150. If there is no green, check the voltage and components associated with pin 27 of IC150 and Green Output Transistor (Q240) and pin 6 of the CRT. If there is no blue, check the voltage and components associated with pin 28 of IC150 and Blue Output Transistor (Q247) and pin 11 of the CRT. If there is no red, check the voltage and components associated with pin 26 of IC150 and Red Output Transistor (Q226) and pin 8 of the CRT.

TERMINAL GUIDES



For SAFETY use only equivalent replacement part, see parts list.
—✱— Circuitry not used in some versions
- - - Circuitry used in some versions
⊖ See parts list
※ Nominal value
⏚ Ground
Chassis
▽ Common tie point
Waveforms and voltages are taken from ground, unless noted otherwise.
Waveforms: triggered scope, keyed rainbow generator.
Item numbers in rectangles appear in the alignment/adjustment instructions.
Supply voltages maintained as shown at input.
Voltages measured with digital meter, no signal.
Controls adjusted for normal operation.
Terminal identification may not be found on unit.
Capacitors are 50 volts or less, 5% unless noted.
Electrolytic capacitors are 50 volts or less, 20% unless noted.
Resistors are ½W or less, 5% unless noted.
Value in ( ) used in some versions.

TERMINAL GUIDES AND NOTES

TEST EQUIPMENT

Test Equipment listed by Manufacturer illustrates typical or equivalent equipment used by SAMS' Engineers to obtain measurements and is compatible with most types used by field service technicians.

Equipment Name	B & K Precision Equipment No.	Sencore Equipment No.	Notes
OSCILLOSCOPE	1560, 1564, 1541	SC-61	
GENERATORS			
RGB	1249,1260		
MULTIBURST SIGNAL	1251,1260	VA62	
COLOR BAR	1211A,1249,1251,1260	VA62,CG25	
ANALOG VOM	277, 111, 116		
DIGITAL VOM	2830, 2806	DVM37,DVM56,SC61	
FREQUENCY METER	1803,1805	FC71,SC61	
HI-VOLTAGE PROBE VOM/DMM Accessory probes	HV-44 PR-28 (HV)	HP-200	
ISOLATION TRANSFORMER	TR110,1604,1653,1655	PR57	
CAPACITANCE ANALYZER	820,810,830	LC53	
CRT ANALYZER	467,470	CR70	
TEMPERATURE PROBE	TP-28, TP-30		
AC LEAKAGE TESTER	1655	PR57	
LOGIC PROBE	DP51,DP21		
LOGIC PULSER	DP101,DP31		
INDUCTANCE ANALYZER	875	LC53	
FLYBACK YOKE TESTER	875	LC53,VA62	
TV STEREO GENERATOR	2009		

TV ALIGNMENT INSTRUCTIONS

Use an isolation transformer, or observe polarity, and maintain line voltage at 120VAC.
Allow a 20-minute warm-up period for receiver and test equipment.
Suggested Alignment Tools: GC ELECTRONICS
C44, C195...5000
R50, R114, R185, R327, R339, R345, R353, R474...............8606, 8606L, 8869

PRELIMINARY INSTRUCTIONS

Set the channel selector to the highest unused channel. Set scope sweep to external. Connect scope vertical input to scope vertical input on sweep/marker generator. Connect scope external horizontal input to scope horizontal input on sweep/marker generator. Ground test equipment to TV chassis unless specified otherwise. Use only enough generator output to provide a usable indication.
Note: Response may vary slightly from that shown.

Connect a +7.4V Bias to TP18. (Junction R40 and C40).
Disconnect Plug J1. Use IF shield for ground.

VIDEO IF ALIGNMENT (SWEEP MARKER GENERATOR)

DIRECT PROBE FROM SWEEP/MARKER GENERATOR	SWEEP GENERATOR OUTPUT	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	REMARKS
To TP19 (Junction R60 and C60)	To J1	44MHz (10MHz Sweep)	47.25MHz	Adjust L39 for MINIMUM. See Figure 1.
"	"	"	41.25MHz 42.17MHz 44.00MHz 45.75MHz 47.25MHz	Adjust L54 to position the 45.75MHz marker as high as possible on the response curve without lowering the amplitude of the response curve. See Figure 2. NOTE: Reconnect J1 Plug.

TV ALIGNMENT INSTRUCTIONS (Continued)

VIDEO IF ALIGNMENT (BAR SWEEP GENERATOR)

BAR SWEEP GENERATOR	SCOPE INPUT	REMARKS
To Antenna Terminal	To TP19 (Junction R60 and C60)	Perform Video IF Adjustments per SWEEP/MARKER GENERATOR Instructions above. See Figure 3.

SOUND IF ALIGNMENT

Tune in a station and adjust L120 and T110 for Maximum sound. Reduce signal strength at the antenna terminals until distortion appears. Continue to reduce the signal while aligning for undistorted output by adjusting T110.

AUTOMATIC FINE TUNING ALIGNMENT

Connect as explained in preliminary instructions unless specified otherwise.

DIRECT PROBE FROM SWEEP/MARKER GENERATOR	SWEEP GENERATOR OUTPUT	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	REMARKS
To TP20 (Pin 6 of P6 Plug)	To J1	44.00MHz	45.75MHz	Adjust L55 for Maximum gain and symmetry of response. See Figure 4.

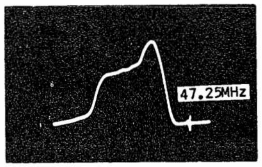


Figure 1

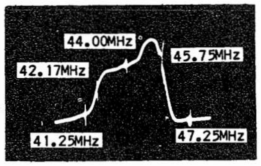


Figure 2

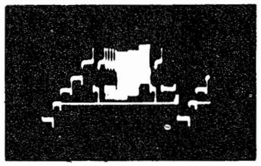


Figure 3

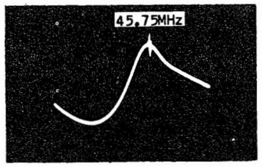
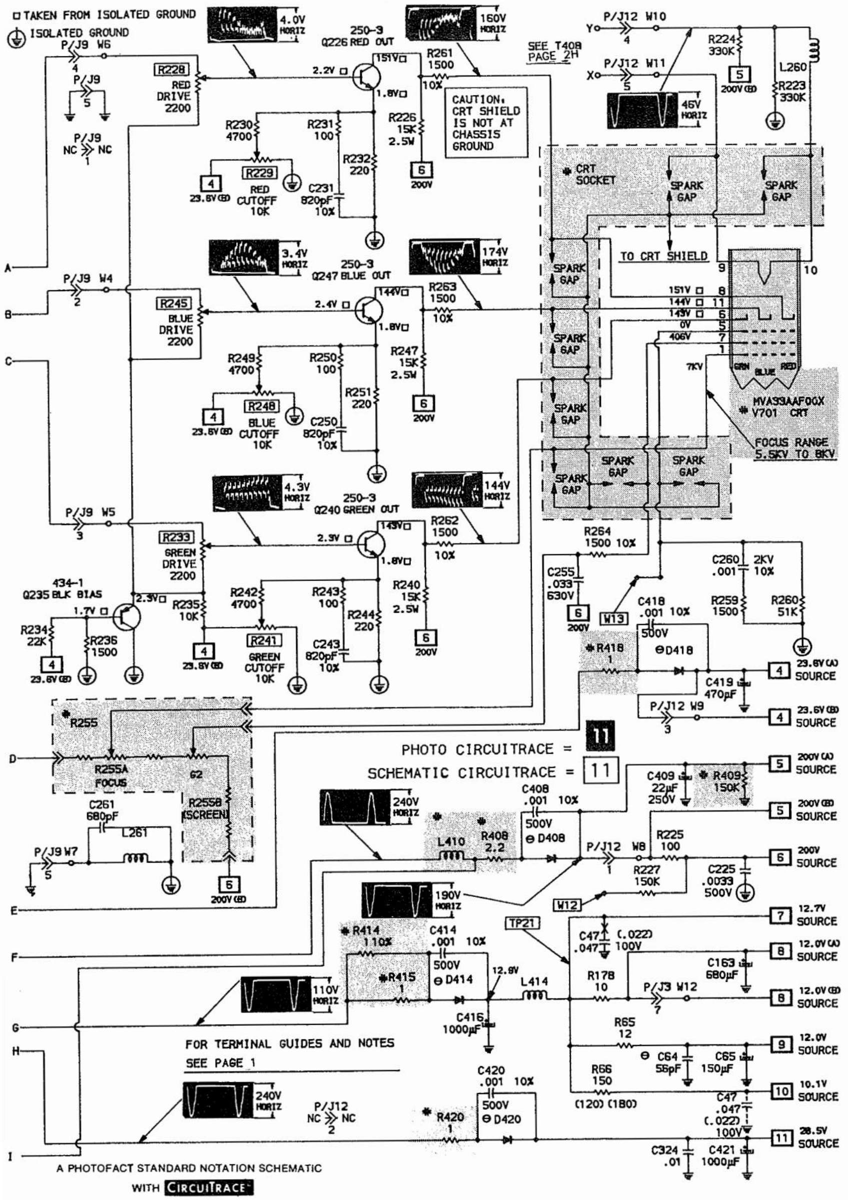


Figure 4

A

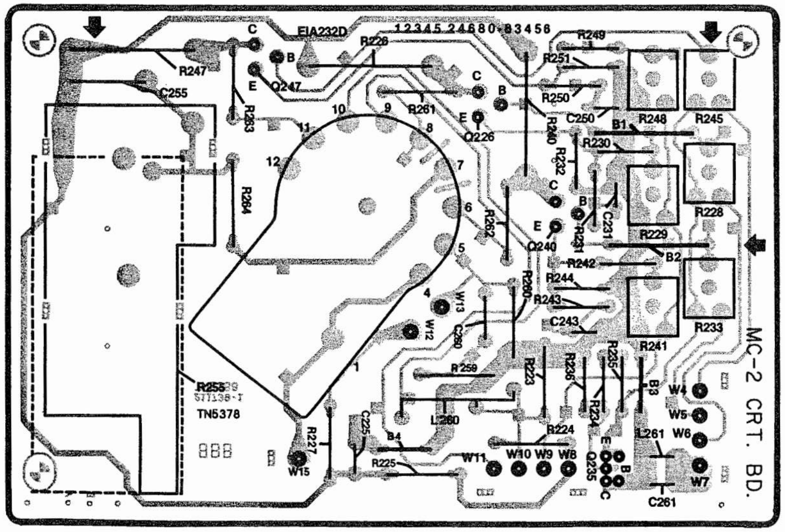


A PHOTOFACT STANDARD NOTATION SCHEMATIC WITH CIRCUITRACE

© Howard W. Sams & Co. 1987

B

APT038-A001 CRT SOCKET BOARD MODULE P.C. BOARD OVERLAY (VIEWED FROM THE COMPONENT SIDE)



Courtesy of Manufacturer

APT038 CRT SOCKET BOARD

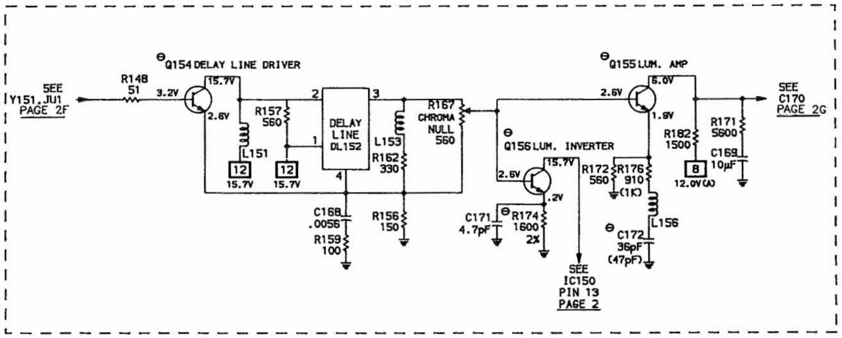


PHOTO CIRCUITRACE = 11

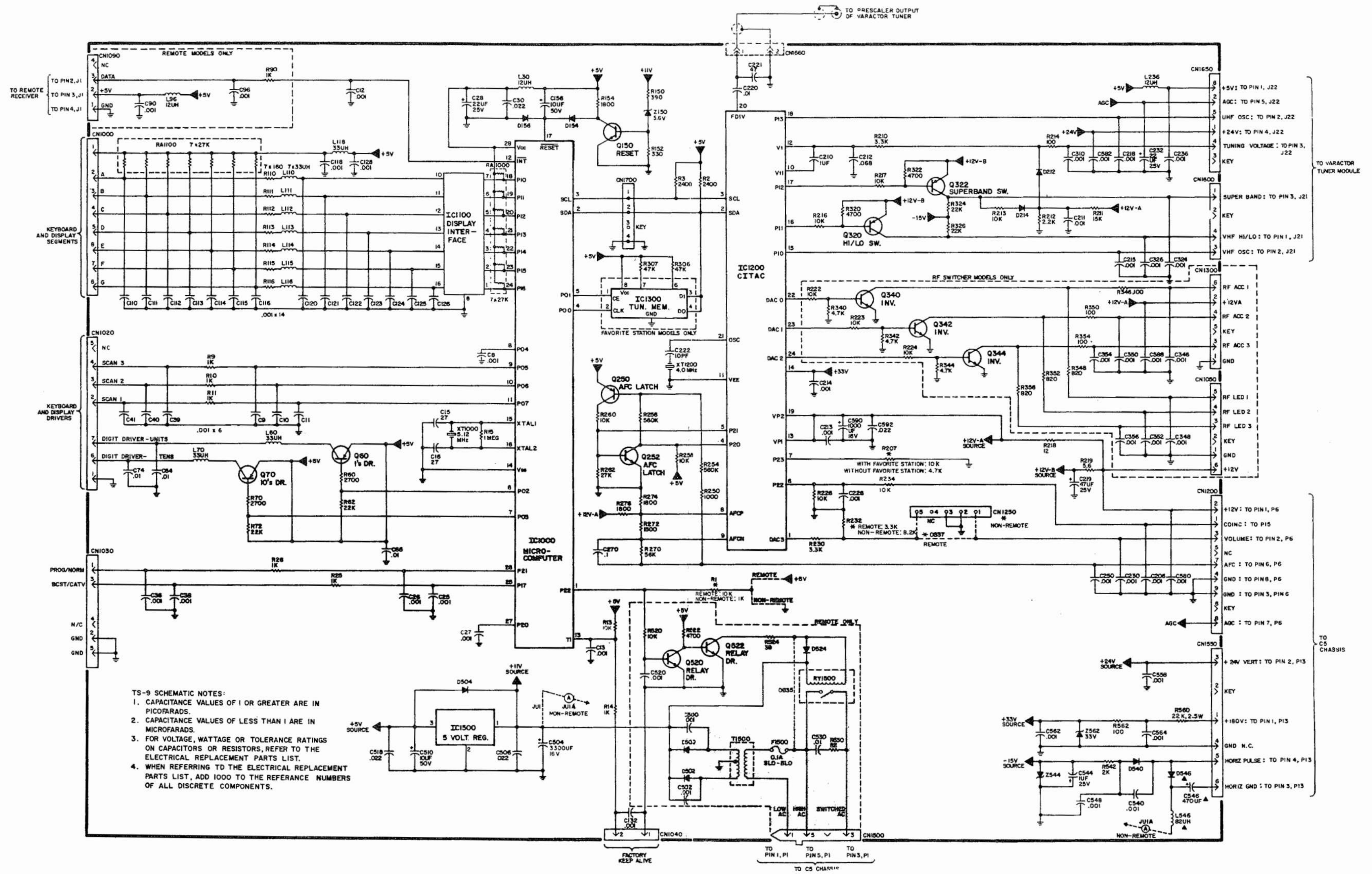
SCHEMATIC CIRCUITRACE = 11

A PHOTOFACT STANDARD NOTATION SCHEMATIC WITH CIRCUITRACE

© Howard W. Sams & Co. 1987

COMB FILTER BOARD

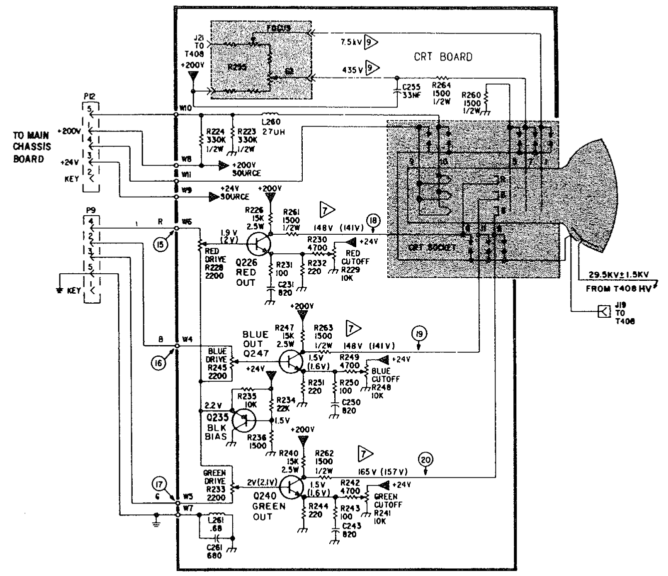
TS-9 REMOTE TUNING SYSTEM SCHEMATIC DIAGRAM
(A10201-A001, A10202-A001 & A10204-A001 CONTROL MODULES)



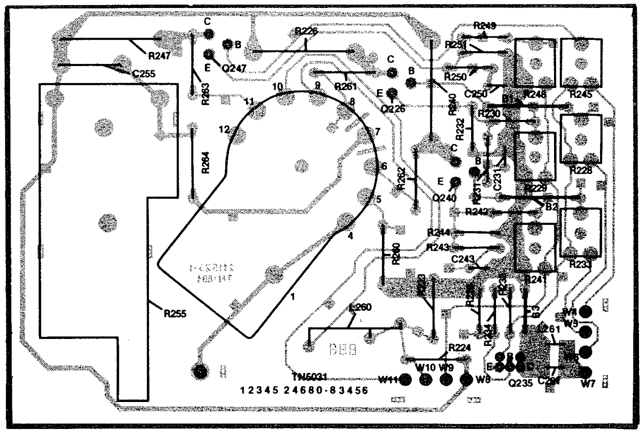
TS-9 SCHEMATIC NOTES:

1. CAPACITANCE VALUES OF 1 OR GREATER ARE IN PICOFARADS.
2. CAPACITANCE VALUES OF LESS THAN 1 ARE IN MICROFARADS.
3. FOR VOLTAGE, WATTAGE OR TOLERANCE RATINGS ON CAPACITORS OR RESISTORS, REFER TO THE ELECTRICAL REPLACEMENT PARTS LIST.
4. WHEN REFERRING TO THE ELECTRICAL REPLACEMENT PARTS LIST, ADD 1000 TO THE REFERANCE NUMBERS OF ALL DISCRETE COMPONENTS.

A10090-A001 (EARLY PRODUCTION) CRT SOCKET BOARD MODULE SCHEMATIC DIAGRAM



A10090-A001 (EARLY PRODUCTION) CRT SOCKET BOARD MODULE P.C. BOARD OVERLAY (VIEWED FROM THE COMPONENT SIDE)

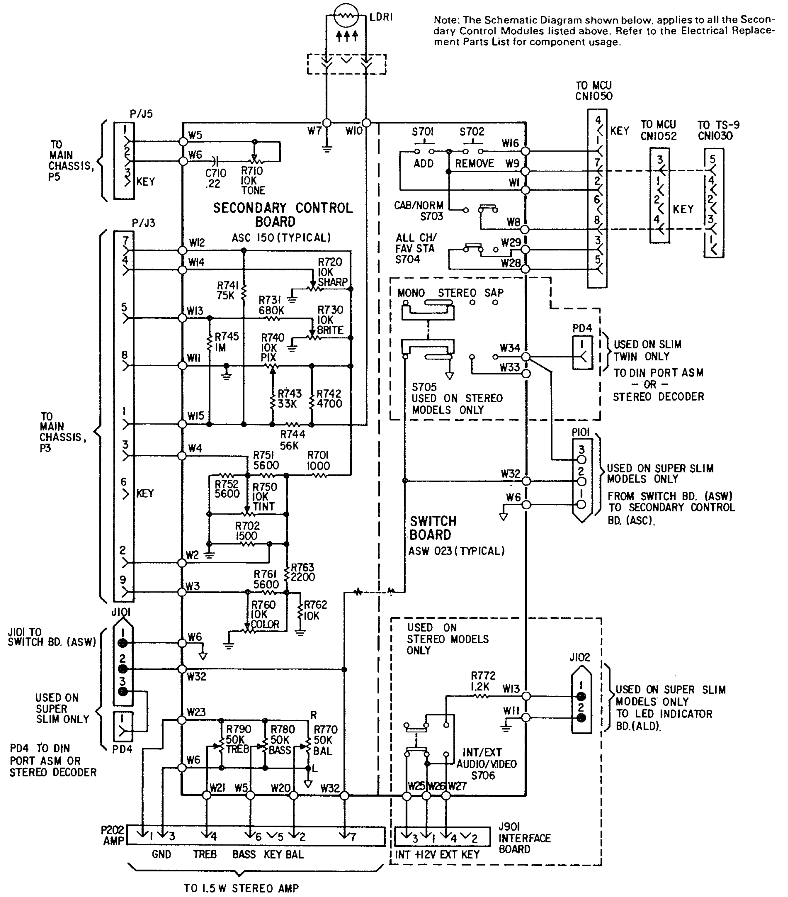


Courtesy of the Manufacturer

CRT BOARD (EARLY PRODUCTION)

SECONDARY CONTROL MODULE SCHEMATIC DIAGRAM

Note: The Schematic Diagram shown below, applies to all the Secondary Control Modules listed above. Refer to the Electrical Replacement Parts List for component usage.



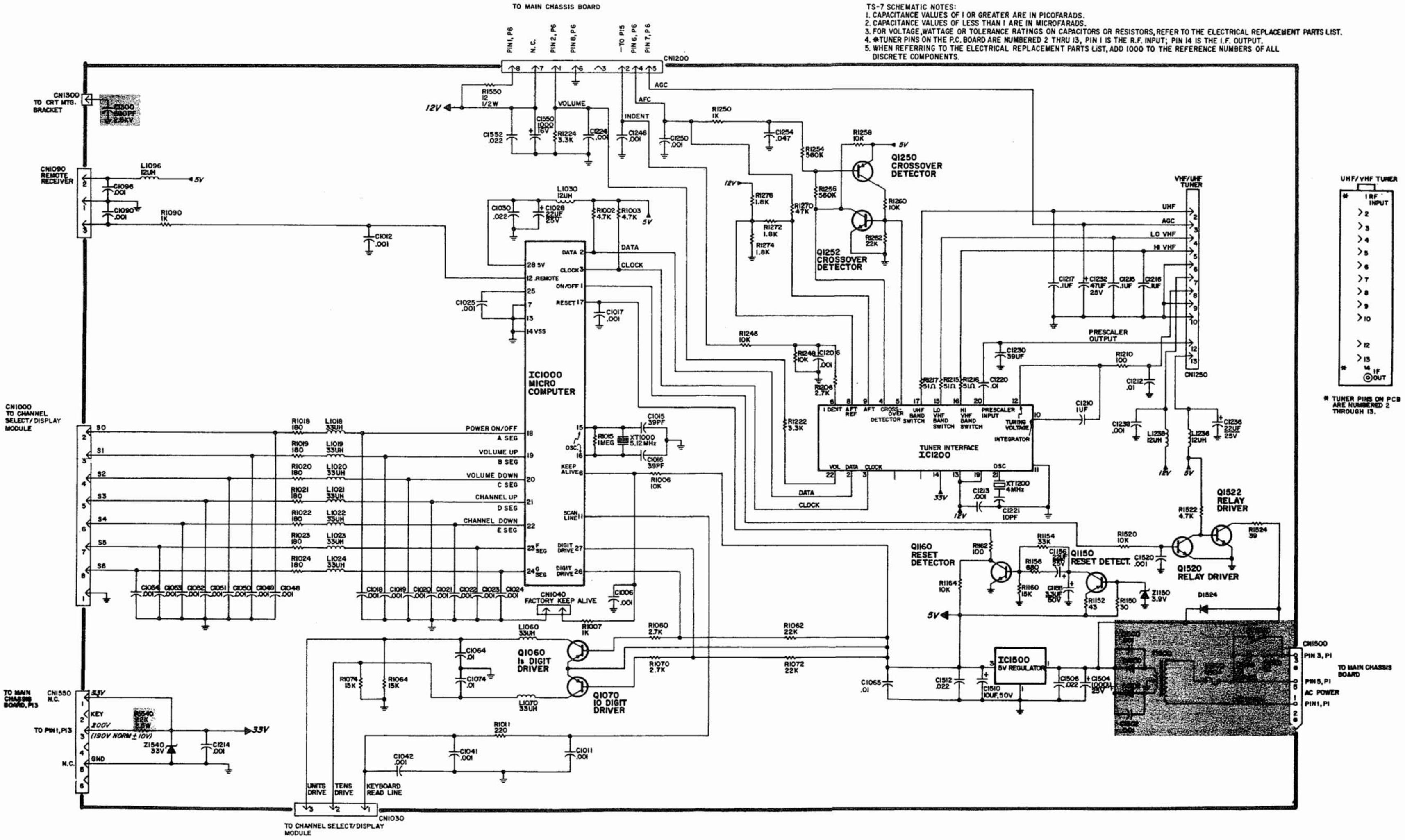
NOTE: — — — DOTTED LINE INDICATES SEPARATE SEC. CONT. BD. & SWITCH BDS. ON SOME MODELS.

Courtesy of the Manufacturer

SECONDARY CONTROL (MCU, TS-9 VERSION)

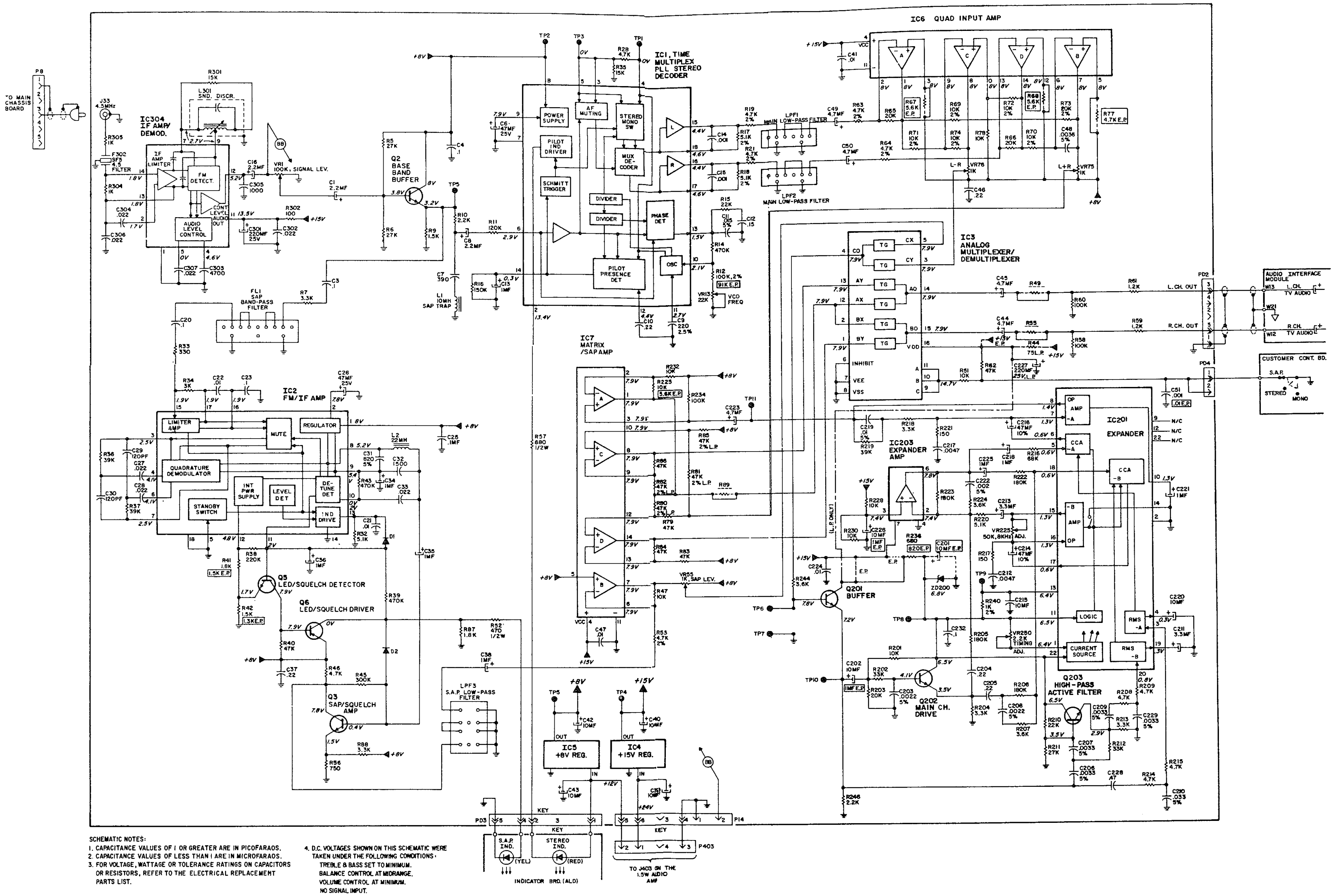
TS-7 REMOTE TUNING SYSTEM SCHEMATIC DIAGRAM (A10132-A001 & -B002 CONTROL MODULES)

TS-7 SCHEMATIC NOTES:
1. CAPACITANCE VALUES OF 1 OR GREATER ARE IN PICOFARADS.
2. CAPACITANCE VALUES OF LESS THAN 1 ARE IN MICROFARADS.
3. FOR VOLTAGE, WATTAGE OR TOLERANCE RATINGS ON CAPACITORS OR RESISTORS, REFER TO THE ELECTRICAL REPLACEMENT PARTS LIST.
4. *TUNER PINS ON THE P.C. BOARD ARE NUMBERED 2 THRU 13, PIN 1 IS THE R.F. INPUT; PIN 14 IS THE I.F. OUTPUT.
5. WHEN REFERRING TO THE ELECTRICAL REPLACEMENT PARTS LIST, ADD 1000 TO THE REFERENCE NUMBERS OF ALL DISCRETE COMPONENTS.



Courtesy of Manufacturer

A10240-A001 STEREO DECODER PANEL SCHEMATIC DIAGRAM



SCHEMATIC NOTES:

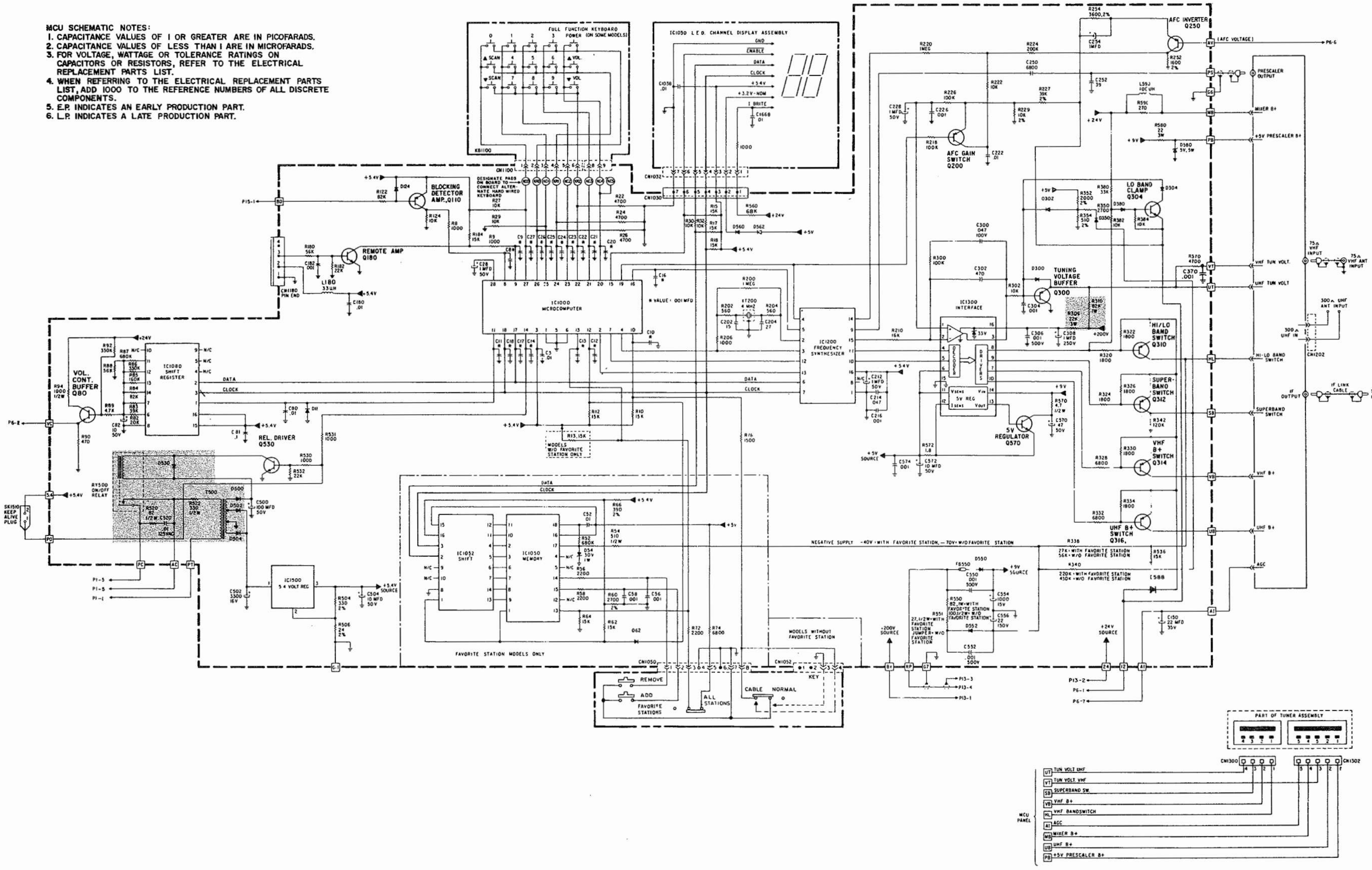
1. CAPACITANCE VALUES OF 1 OR GREATER ARE IN PICOFARADS.
2. CAPACITANCE VALUES OF LESS THAN 1 ARE IN MICROFARADS.
3. FOR VOLTAGE, WATTAGE OR TOLERANCE RATINGS ON CAPACITORS OR RESISTORS, REFER TO THE ELECTRICAL REPLACEMENT PARTS LIST.
4. D.C. VOLTAGES SHOWN ON THIS SCHEMATIC WERE TAKEN UNDER THE FOLLOWING CONDITIONS: TREBLE & BASS SET TO MINIMUM. BALANCE CONTROL AT MIDRANGE. VOLUME CONTROL AT MINIMUM. NO SIGNAL INPUT.

Courtesy of Manufacturer

25C5 MCU REMOTE TUNING SYSTEM ASSEMBLY (EARLY PRODUCTION)
SCHEMATIC DIAGRAM

A10096-A001
A10098-A002
A10164-A001

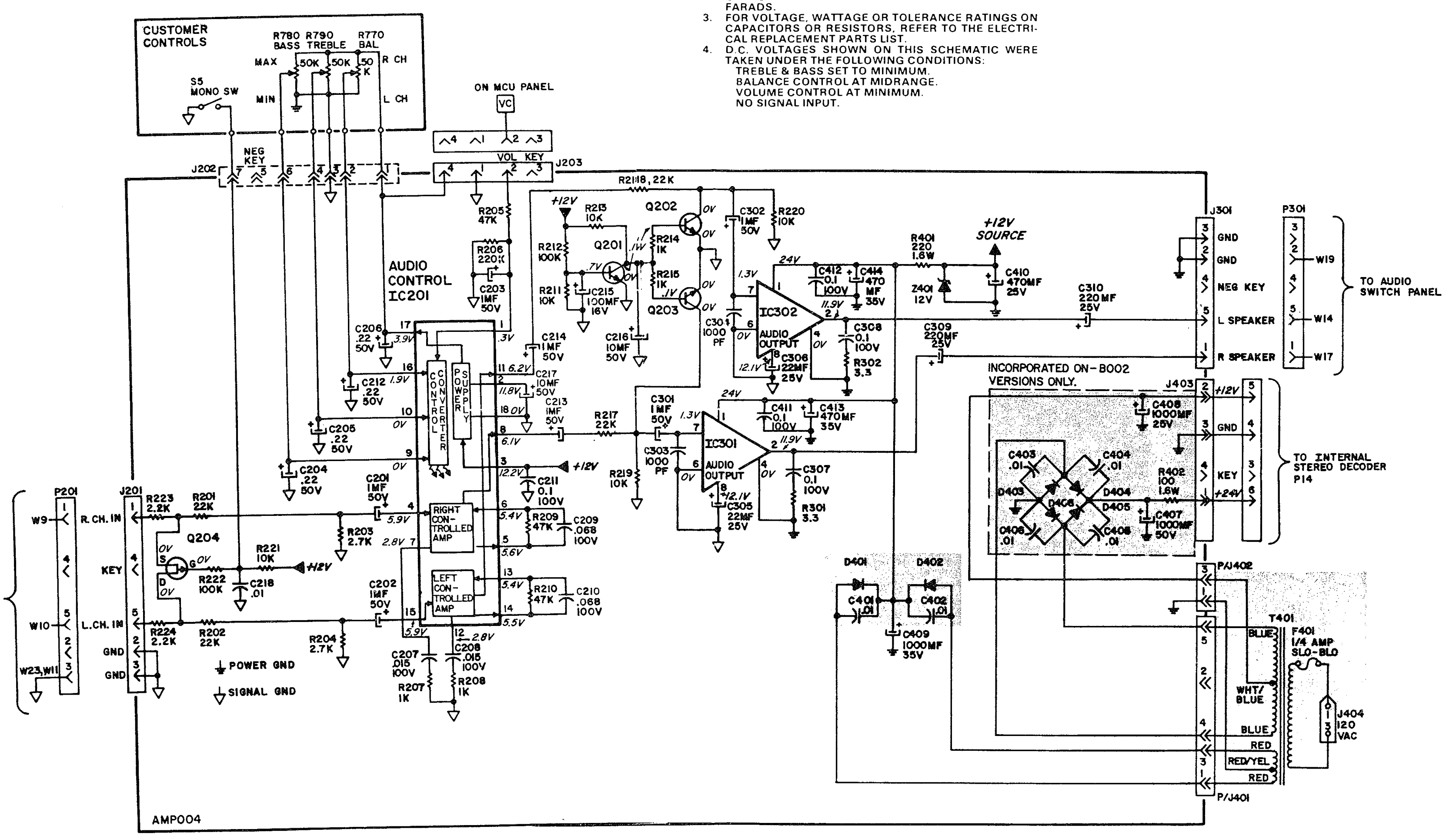
MCU SCHEMATIC NOTES:
1. CAPACITANCE VALUES OF 1 OR GREATER ARE IN PICOFARADS.
2. CAPACITANCE VALUES OF LESS THAN 1 ARE IN MICROFARADS.
3. FOR VOLTAGE, WATTAGE OR TOLERANCE RATINGS ON CAPACITORS OR RESISTORS, REFER TO THE ELECTRICAL REPLACEMENT PARTS LIST.
4. WHEN REFERRING TO THE ELECTRICAL REPLACEMENT PARTS LIST, ADD 1000 TO THE REFERENCE NUMBERS OF ALL DISCRETE COMPONENTS.
5. E.P. INDICATES AN EARLY PRODUCTION PART.
6. L.P. INDICATES A LATE PRODUCTION PART.



MAGNAVOX CHASSIS 25C501/03/04/07/10/14/19/20/21/24/25/26/27/28/30/32/33/34/35/36/37/39/44/45/46/50/51/52/55/56/57/59/61/62

AMP004-A001 & -B0002 STEREO AMPLIFIER PANEL SCHEMATIC DIAGRAM

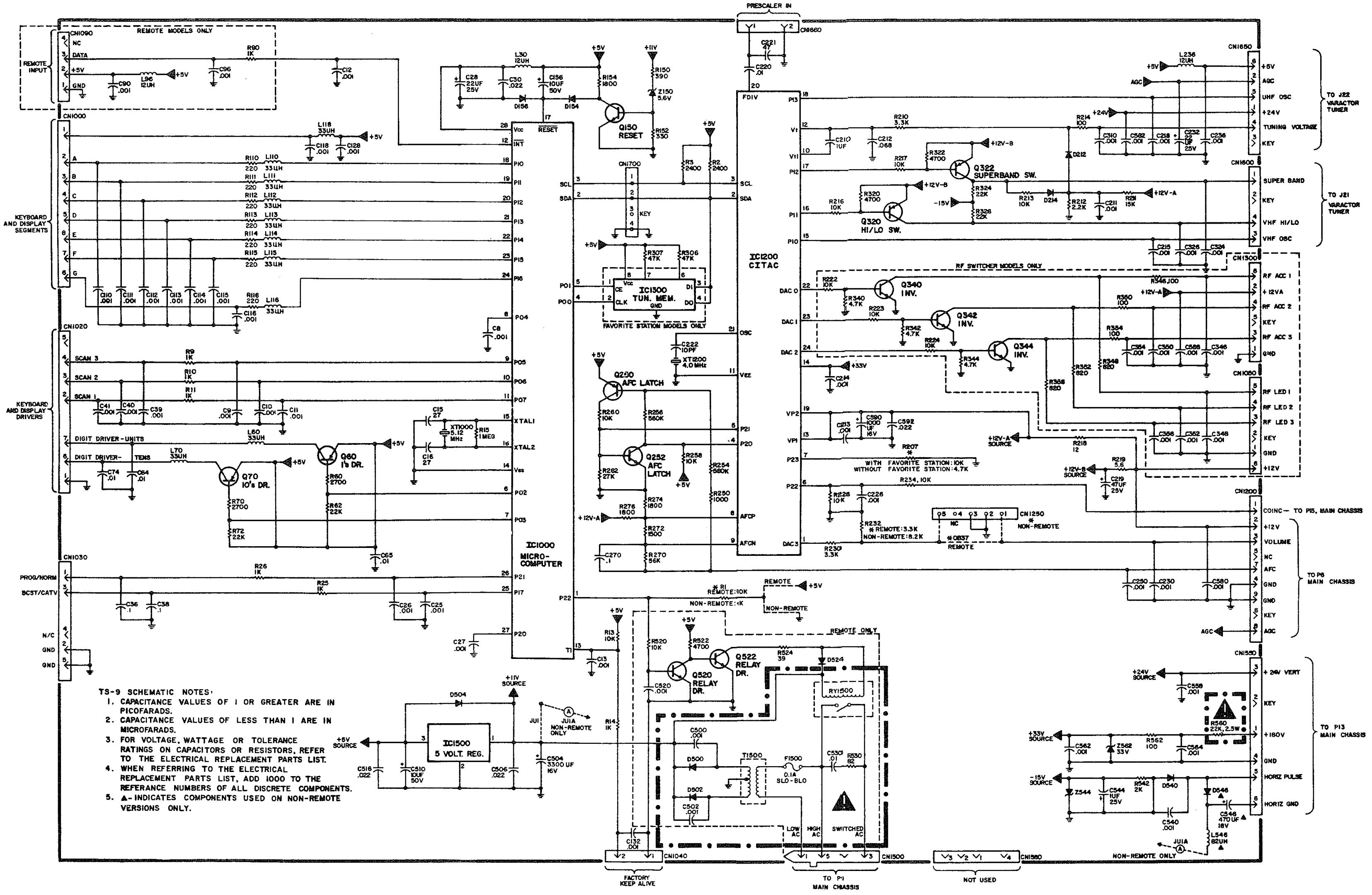
SCHEMATIC NOTES:
1. CAPACITANCE VALUES OF 1 OR GREATER ARE IN PICO-FARADS.
2. CAPACITANCE VALUES OF LESS THAN 1 ARE IN MICRO-FARADS.
3. FOR VOLTAGE, WATTAGE OR TOLERANCE RATINGS ON CAPACITORS OR RESISTORS, REFER TO THE ELECTRICAL REPLACEMENT PARTS LIST.
4. D.C. VOLTAGES SHOWN ON THIS SCHEMATIC WERE TAKEN UNDER THE FOLLOWING CONDITIONS:
   TREBLE & BASS SET TO MINIMUM.
   BALANCE CONTROL AT MIDRANGE.
   VOLUME CONTROL AT MINIMUM.
   NO SIGNAL INPUT.



Courtesy of Manufacturer

TS-9 REMOTE TUNING SYSTEM SCHEMATIC DIAGRAM
(A10201-B002, A10202-B002 & A10204-B002 CONTROL MODULES)

(Parts List - Pgs. 29 & 30)



Courtesy of Manufacturer

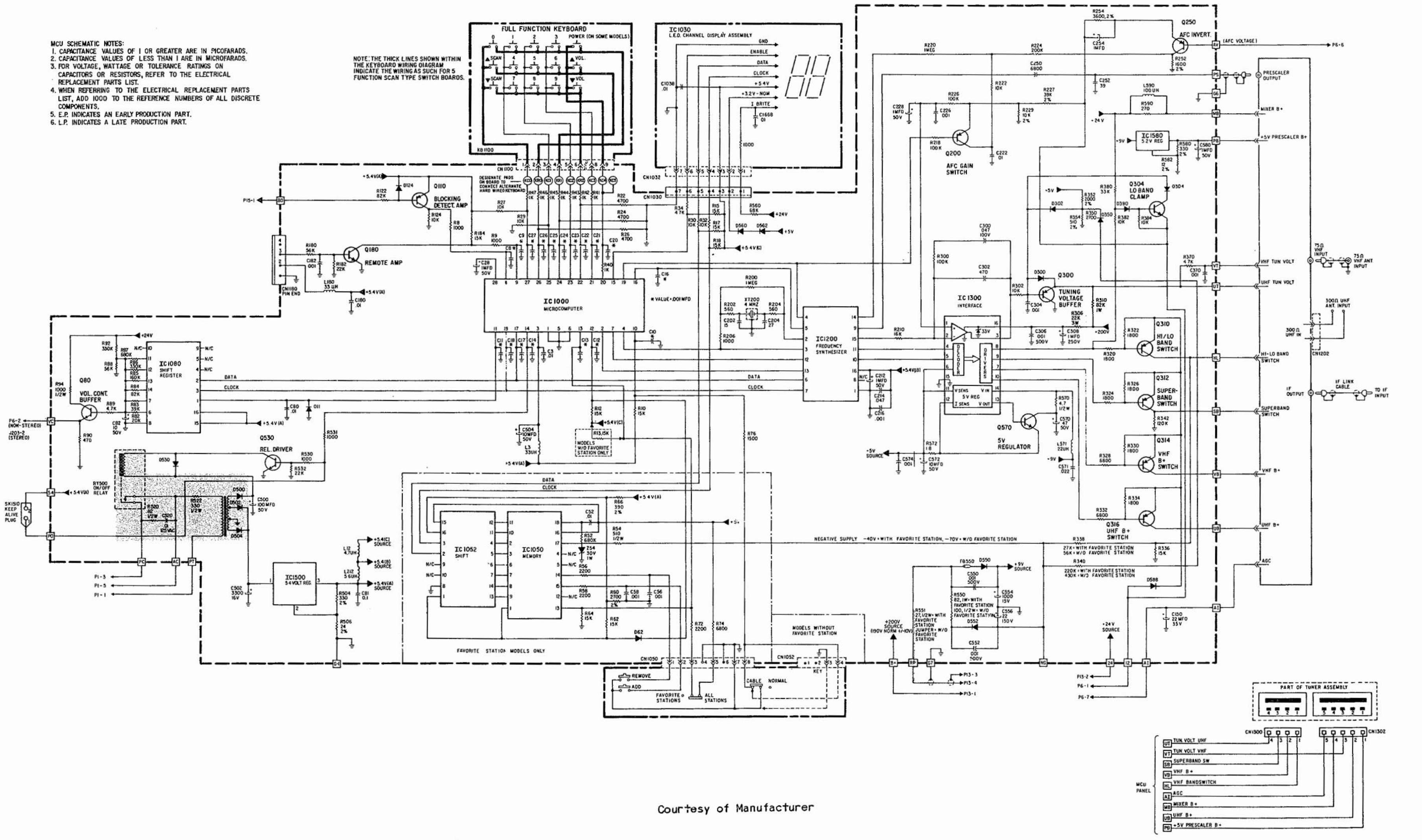
TS-9 RMEOTE TUNING SYSTEM (A10201-B002,A10202-B002,A10204-B002)

25C5 MCU REMOTE TUNING SYSTEM ASSEMBLY (LATE PRODUCTION) SCHEMATIC DIAGRAM

A10234-A001 A10236-A001 A10238-A001

MCU SCHEMATIC NOTES:
1. CAPACITANCE VALUES OF 1 OR GREATER ARE IN PICOFARADS.
2. CAPACITANCE VALUES OF LESS THAN 1 ARE IN MICROFARADS.
3. FOR VOLTAGE, WATTAGE OR TOLERANCE RATINGS ON CAPACITORS OR RESISTORS, REFER TO THE ELECTRICAL REPLACEMENT PARTS LIST.
4. WHEN REFERRING TO THE ELECTRICAL REPLACEMENT PARTS LIST, ADD 1000 TO THE REFERENCE NUMBERS OF ALL DISCRETE COMPONENTS.
5. E.P. INDICATES AN EARLY PRODUCTION PART.
6. L.P. INDICATES A LATE PRODUCTION PART.

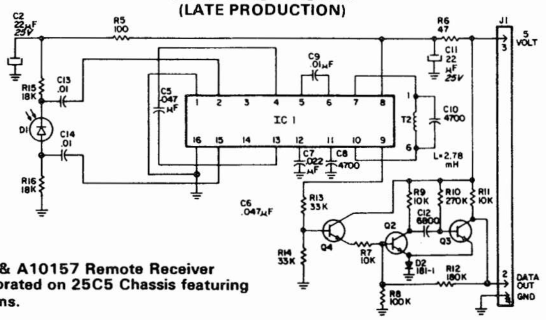
NOTE: THE THICK LINES SHOWN WITHIN THE KEYBOARD WIRING DIAGRAM INDICATE THE WIRING AS SUCH FOR 5 FUNCTION SCAN TYPE SWITCH BOARDS.



Courtesy of Manufacturer

MCU REMOTE TUNING SYSTEM (LATE PRODUCTION)

A10144-A002 & A10157-A001 REMOTE RECEIVER MODULE SCHEMATIC DIAGRAM (LATE PRODUCTION)

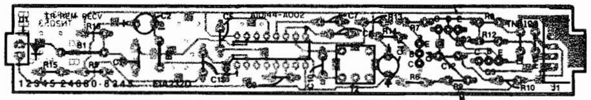


Note: The A10144 & A10157 Remote Receiver Modules are incorporated on 25C5 Chassis featuring MCU Tuning Systems.

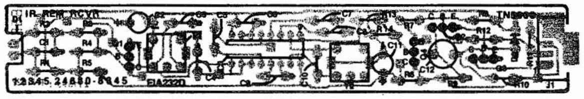
A10144-A002 & A10157-A001 NOTES:

1. PIN 2 OF J1 CONNECTS TO PIN 3 OF CN1180 ON THE MCU BOARD. PIN 3 OF J1 CONNECTS TO PIN 2 AND PIN 4 OF J1 CONNECTS TO PIN 1 OF CN1180.
2. CAPACITANCE VALUES OF 1 OR GREATER ARE IN PICOFARADS.
3. CAPACITANCE VALUES OF LESS THAN 1 ARE IN MICROFARADS.
4. ALL RESISTORS ARE ¼w, 5%, CARBON FILM.
5. THE A10157 MODULE CONTAINS "CHIP" TYPE SURFACE MOUNTED COMPONENTS. SPECIAL EQUIPMENT MAY BE REQUIRED TO SERVICE THIS MODULE.

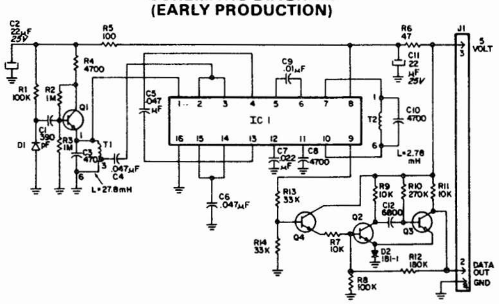
A10144-A002 (LATE PRODUCTION) REMOTE RECEIVER MODULE P.C. BOARD OVERLAY (VIEWED FROM THE COMPONENT SIDE)



A10144-A001 (EARLY PRODUCTION) REMOTE RECEIVER MODULE P.C. BOARD OVERLAY (VIEWED FROM THE COMPONENT SIDE)

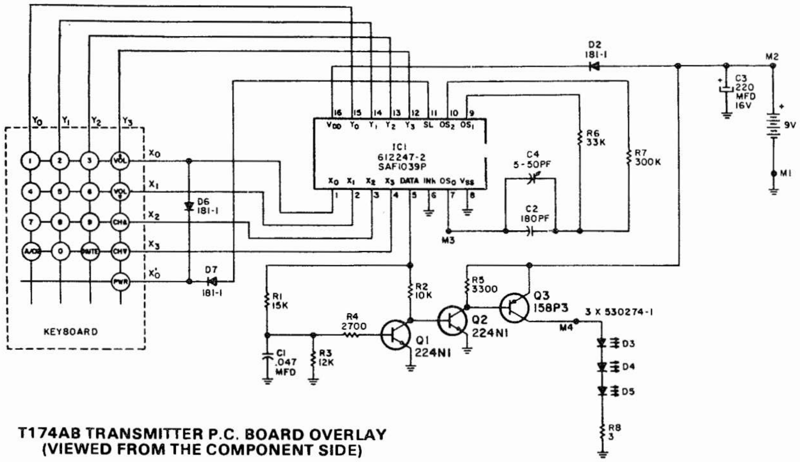


A10144-A001 REMOTE RECEIVER MODULE SCHEMATIC DIAGRAM (EARLY PRODUCTION)

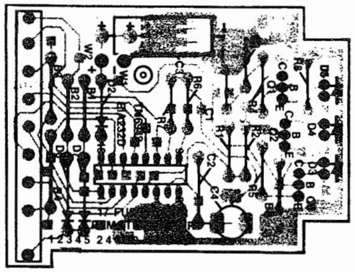


Courtesy of Manufacturer

T174AB REMOTE 17 BUTTON TRANSMITTER SCHEMATIC DIAGRAM



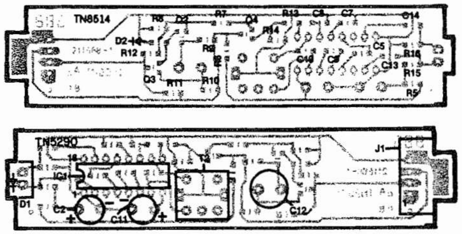
T174AB TRANSMITTER P.C. BOARD OVERLAY (VIEWED FROM THE COMPONENT SIDE)



*Note: This Key is referred to as "Quick View" on Sylvania transmitters, "Adjacent Channel" on Magnavox and "Review" on Philco.

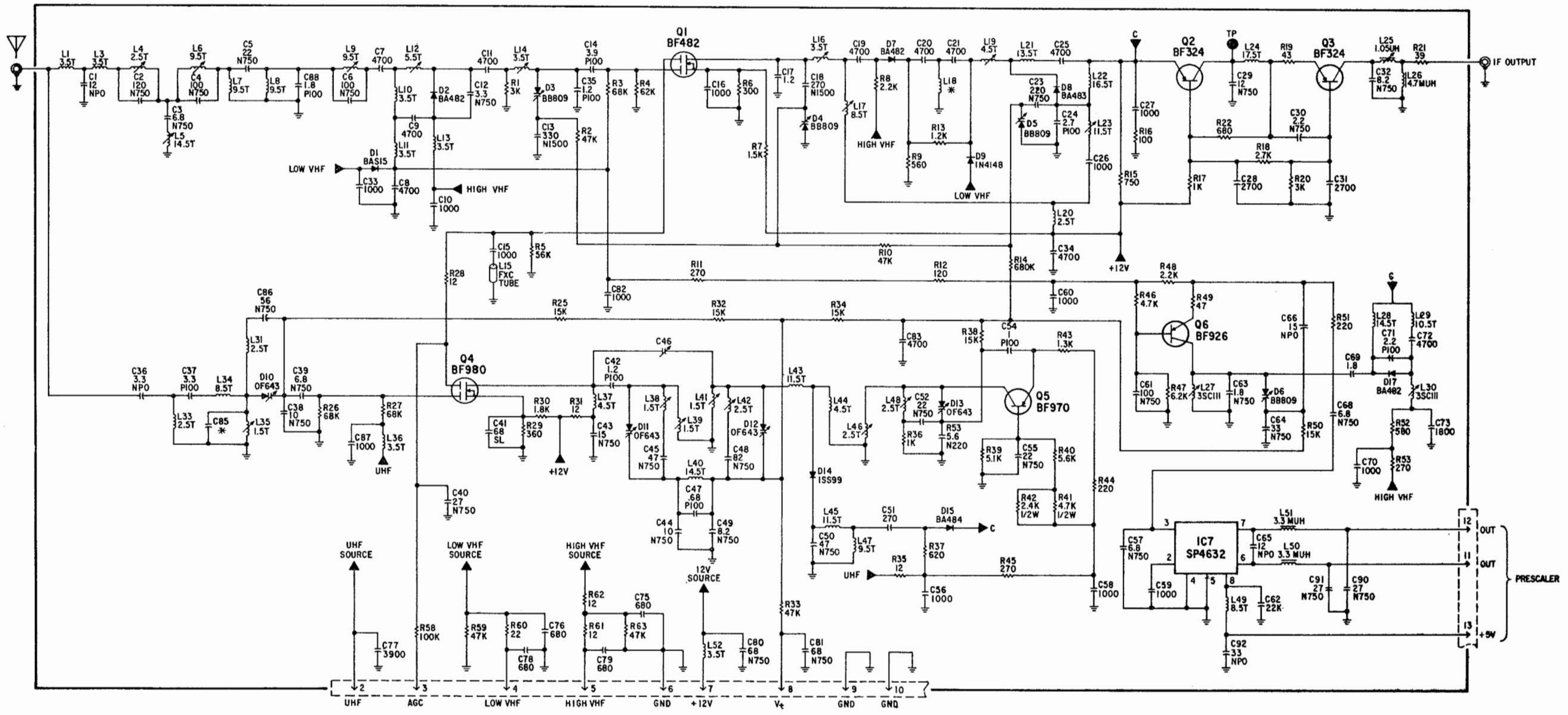
FUNCTION	BCD CODE	HEX CODE	KEY MATRIX SL	X	Y
1	0 0 1 1 0	06	0	0	0
2	0 0 0 1 0	02	0	0	1
3	0 0 1 0 0	04	0	0	2
VOL ▲	0 0 0 0 0	00	0	0	3
5	0 1 0 1 0	0A	0	1	1
6	0 1 1 0 0	0C	0	1	2
VOL ▼	0 1 0 0 0	08	0	1	3
7	0 0 1 1 1	07	0	2	0
8	0 0 0 1 1	03	0	2	1
9	0 0 1 0 1	05	0	2	2
CH ▲	0 0 0 0 1	01	0	2	3
4	0 1 1 1 0	0E	0	1	0
*A/CH	0 1 1 1 1	0F	0	3	0
0	0 1 0 1 1	0B	0	3	1
MUTE	0 1 1 0 1	0D	0	3	2
CH▼	0 1 0 0 1	09	0	3	3
POWER	1 0 0 0 0	10	1	0	3

A10157-A001 (LATE PRODUCTION) REMOTE RECEIVER MODULE P.C. BOARD OVERLAY



Courtesy of Manufacturer

3402630001 (82 Ch.) UHF & VHF TUNER MODULE SCHEMATIC DIAGRAM
(Incorporated with TS-6 & TS-7 Tuning Systems)

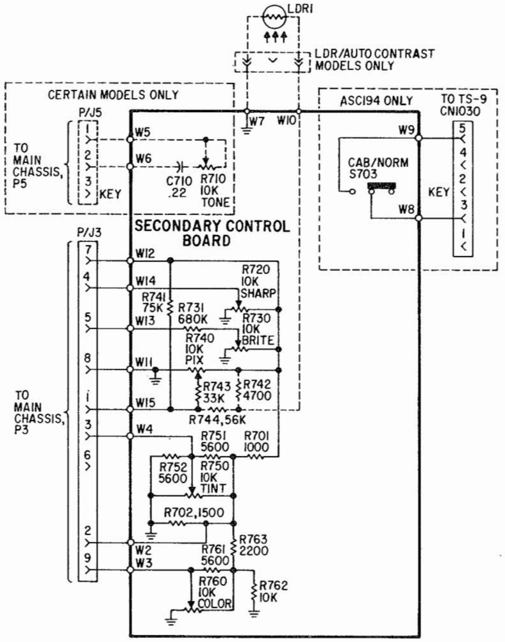


Courtesy of Manufacturer

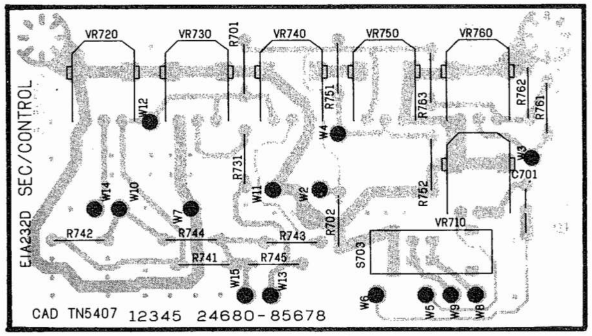
NOTES:
UNLESS OTHERWISE SPECIFIED:
1. ALL RESISTORS ARE IN OHMS, 1/4W, 5%.
2. ALL CAPACITORS ARE IN PICOFARADS.
✱ INDICATES PRINTED ON PC BOARD.

TUNER 3402630001

ASC127 & ASC194 SECONDARY CONTROL MODULE SCHEMATIC DIAGRAM

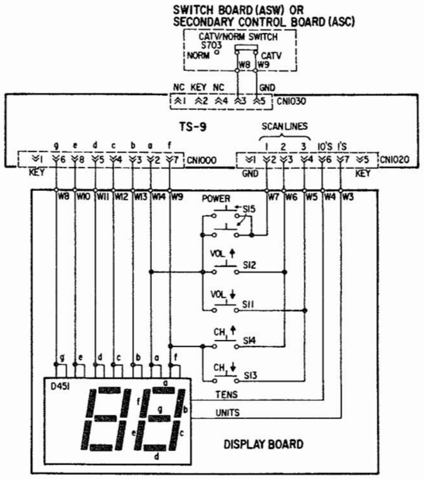


ASC127 & ASC194 SECONDARY CONTROL MODULE P.C. BOARD OVERLAY (VIEWED FROM THE COMPONENT SIDE)

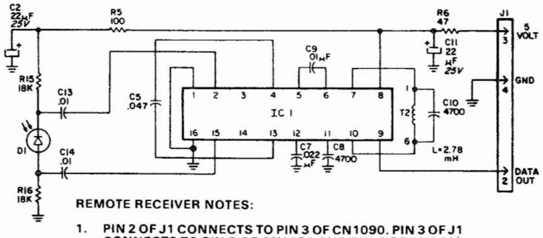


Courtesy of the Manufacturer

ADP018 & ADP019 CHANNEL SELECT/DISPLAY MODULE SCHEMATIC DIAGRAM



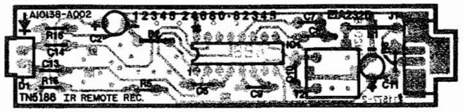
A10138-B003 & ARR003-A001 REMOTE RECEIVER MODULES SCHEMATIC DIAGRAM



REMOTE RECEIVER NOTES:

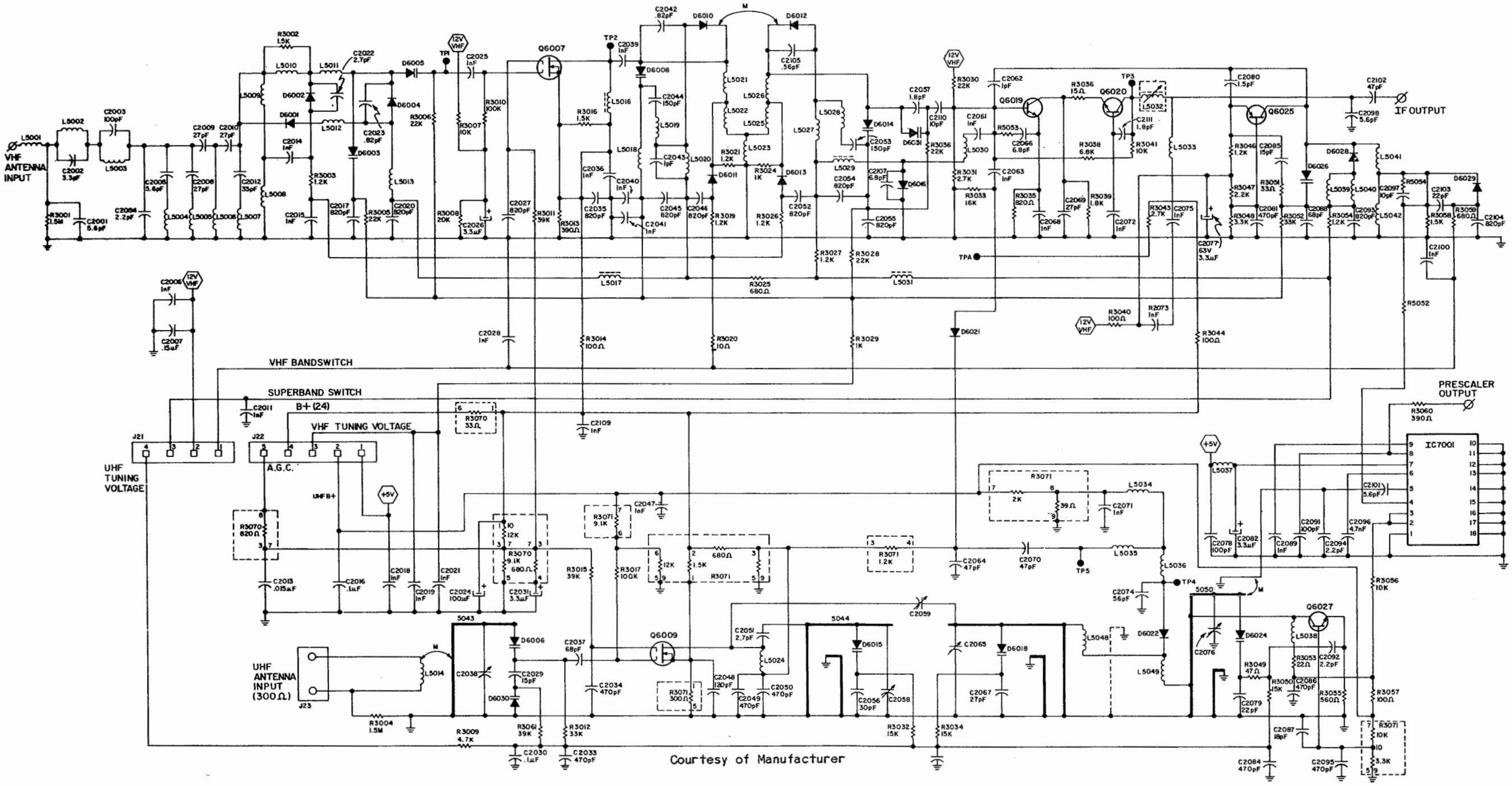
1. PIN 2 OF J1 CONNECTS TO PIN 3 OF CN1090. PIN 3 OF J1 CONNECTS TO PIN 2 OF CN1090 AND PIN 4 OF J1 CONNECTS TO PIN 1.
2. CAPACITANCE VALUES OF LESS THAN 1 ARE IN MICRO-FARADS.
3. CAPACITANCE VALUES OF 1 OR GREATER ARE IN PICO-FARADS.
4. ALL RESISTORS ARE ¼W, 5%, CARBON FILM.

A10138-B003 & ARR003-A001 REMOTE RECEIVER MODULES P.C. BOARD OVERLAY (COMPONENT SIDE)



Courtesy of Manufacturer

3402620003 (125 Ch.) TUNER MODULE SCHEMATIC DIAGRAM
(Incorporated with MCU Tuning Systems)



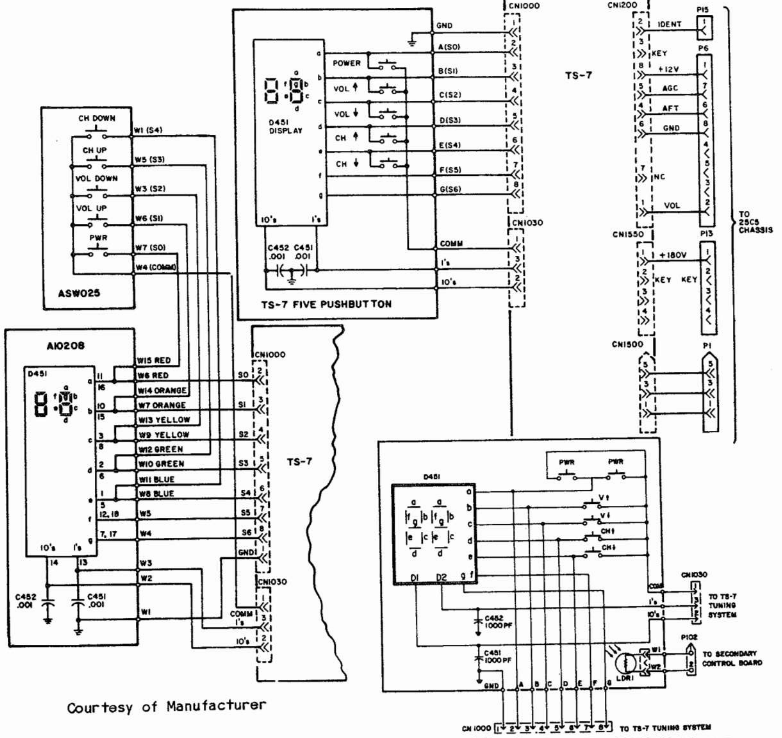
Courtesy of Manufacturer

A10132-A001 & -B002
TS-7 TUNER CONTROL MODULE
REPLACEMENT PARTS LIST

	Ref.	Description	Part No.
	COILS & TRANSFORMERS		
	L1018 thru L1024	33uH., Peaking Coil (7 used)	3618133309
	L1030	12uH., Peaking Coil	3619551209
	L1060	33uH., Peaking Coil	3618133309
	L1070	33uH., Peaking Coil	3618133309
	L1096	12uH., Peaking Coil	3619551209
	L1236	12uH., Peaking Coil	3619551209
	L1238	12uH., Peaking Coil	3619551209
S	T1500	Power Transformer	3004000002
	MISCELLANEOUS		
	CN1000	Wafer Connector, 8 Circuit	1814290008
	CN1030	Wafer Connector, 3 Circuit	1814920003
	CN1090	Wafer Connector, 4 Circuit	1814920004
S	F1500	Fuse, Slo Blow, 125Amp	1808655012
	XT1000	Crystal, 5.12MHz	5604440001
	XT1200	Crystal, 4MHz	5604170005
S	RY1500	Power Relay	5604170005
		Socket, 24 Pin (IC1200)	1815220024
		Socket, 28 Pin (IC1000)	1815220028
		Heat Sink (IC1500)	7316650002
		Square Wire Fins (CN1200, CN1550, CN1250, CN1040, CN1300, 25 used)	1811580101

	Ref.	Description	Part No.
	SEMICONDUCTORS		
	D1210	Diode, Shottky	5302470001
S	D1500	Diode, Silicon	5301711002
S	D1502	Diode, Silicon	5301711002
	D1524	Diode, Silicon	5301711002
	Z1150	Diode, Zener, 3.9V	5301571399
	Z1540	Diode, Zener, 3.3V, 1W	5301921330
	Q1060	Transistor, PNP	6102230001
	Q1070	Transistor, PNP	6102230001
	Q1150	Transistor, PNP	6100830001
	Q1160	Transistor, NPN	6102320002
	Q1250	Transistor, PNP	6100830001
	Q1252	Transistor, NPN	6102320002
	Q1520	Transistor, NPN	6102320002
	Q1522	Transistor, NPN	6102240001
	IC1000	IC, Microcomputer (E.P.)	6124260003
	IC1000	IC, Microcomputer (L.P.)	6124260004
	IC1200	IC, Interface	6124240001
	IC1500	IC, 5V Regulator	6124790001

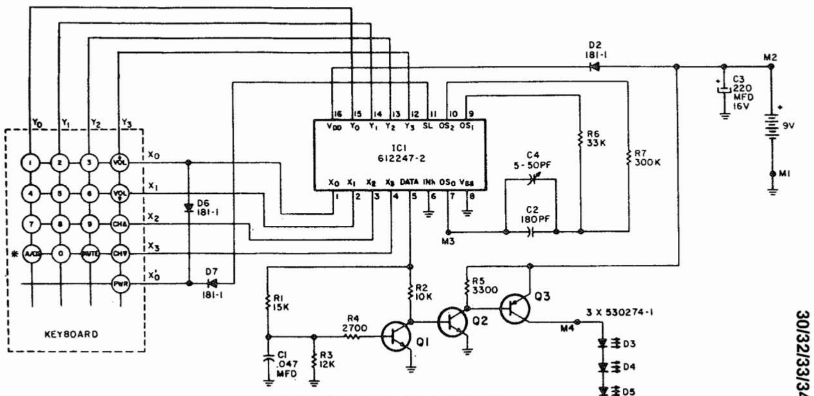
TS-7 INTERCONNECT WIRING DIAGRAM



Courtesy of Manufacturer

TS-7 TUNER CONTROL PARTS LIST

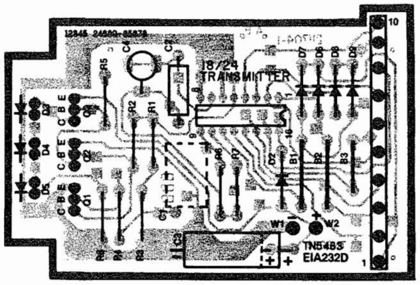
T175AB REMOTE TRANSMITTER SCHEMATIC DIAGRAM



FUNCTION	BCD CODE	HEX CODE	KEY MATRIX SL	X	Y
1	0 0 1 1 0	06	0	0	0
2	0 0 0 1 0	02	0	0	1
3	0 0 1 0 0	04	0	0	2
VOL ▲	0 0 0 0 0	00	0	0	3
5	0 1 0 1 0	0A	0	1	1
6	0 1 1 0 0	0C	0	1	2
VOL ▼	0 1 0 0 0	08	0	1	3
7	0 0 1 1 1	07	0	2	0
8	0 0 0 1 1	03	0	2	1
9	0 0 1 0 1	05	0	2	2
CH ▲	0 0 0 0 1	01	0	2	3
4	0 1 1 1 0	0E	0	1	0
*A/CH	0 1 1 1 1	0F	0	3	0
0	0 1 0 1 1	0B	0	3	1
MUTE	0 1 1 0 1	0D	0	3	2
CH▼	0 1 0 0 1	09	0	3	3
POWER	1 0 0 0 0	10	1	0	3

* Note: This Key is referred to as "Quick View" on Sylvania transmitters, "Adjacent Channel" on Magnavox.

T175AB TRANSMITTER P.C. BOARD OVERLAY (VIEWED FROM THE COMPONENT SIDE)

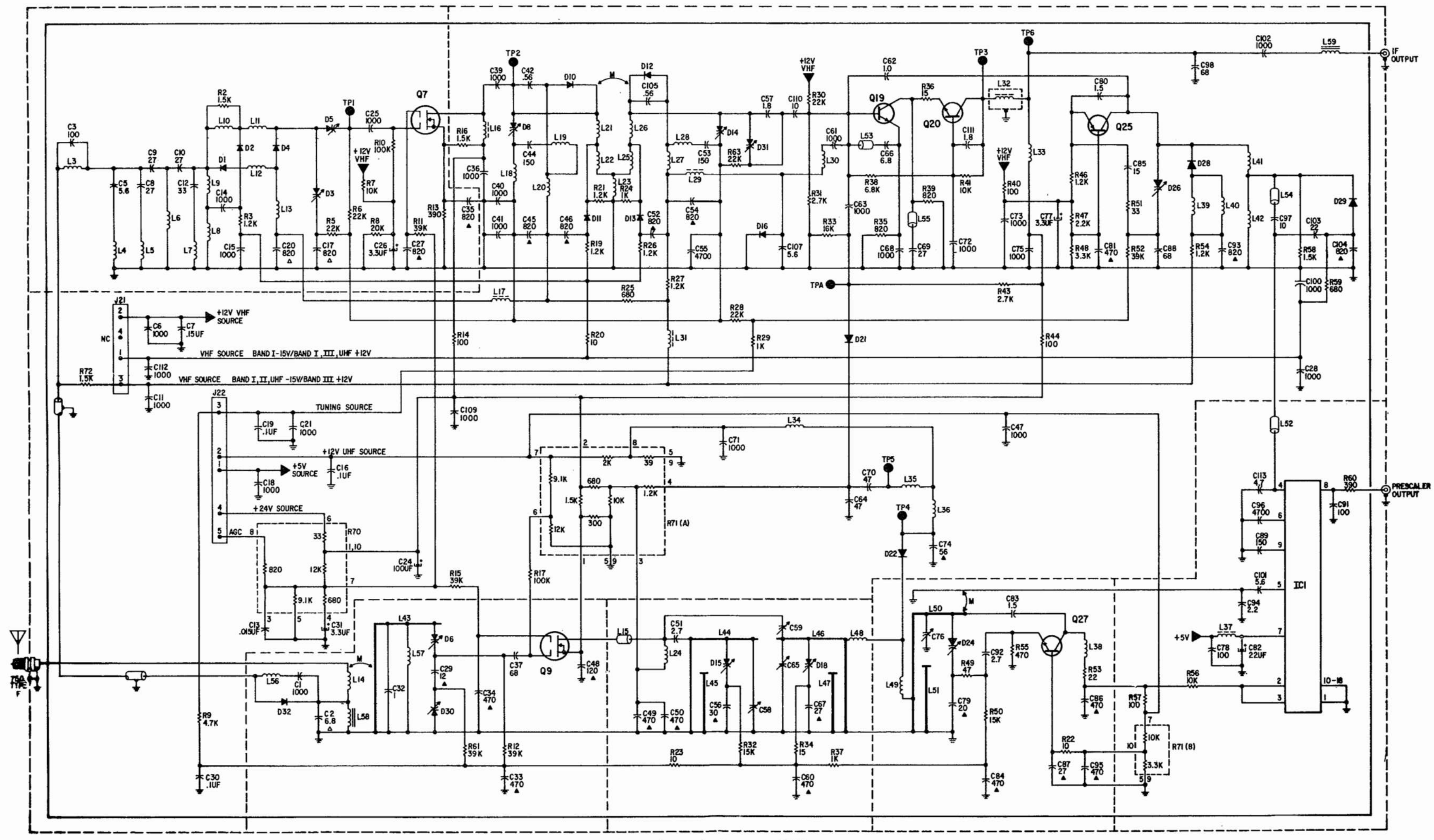


NOTE: THE COMPONENT LOCATIONS OF D8 & D9 ARE NOT USED.

Courtesy of Manufacturer

T175AB REMOTE TRANSMITTER

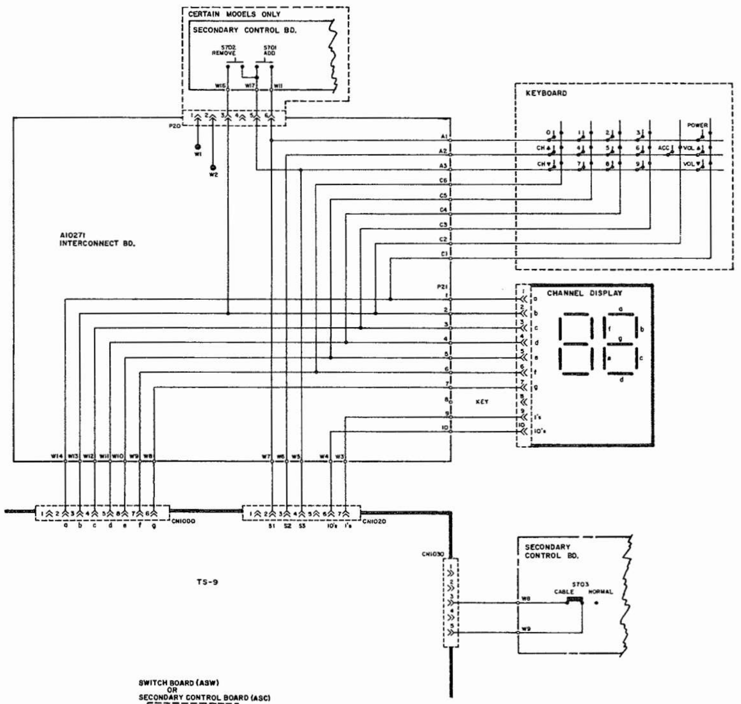
3402910001 (152 Ch.) TUNER MODULE SCHEMATIC DIAGRAM
(Incorporated with TS-9 Tuning Systems)

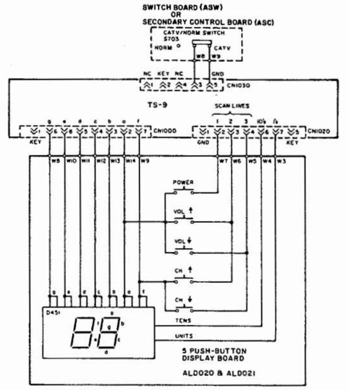


Courtesy of Manufacturer

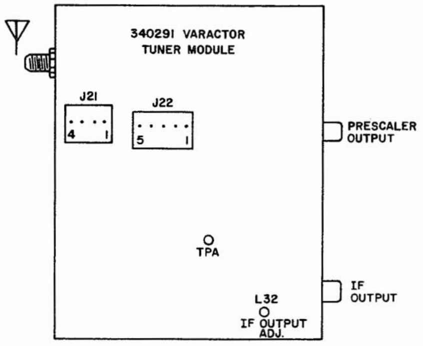
NOTES:
UNLESS OTHERWISE SPECIFIED
1. ALL RESISTORS ARE IN OHMS, 1/4W, 5% TOLERANCE.
2. CAPACITANCE VALUES ARE IN PICOFARADS.
3. ▲ = TRAPIZODIAL CAPACITORS.

TS-9 INTERCONNECT WIRING DIAGRAM





VARACTOR TUNER

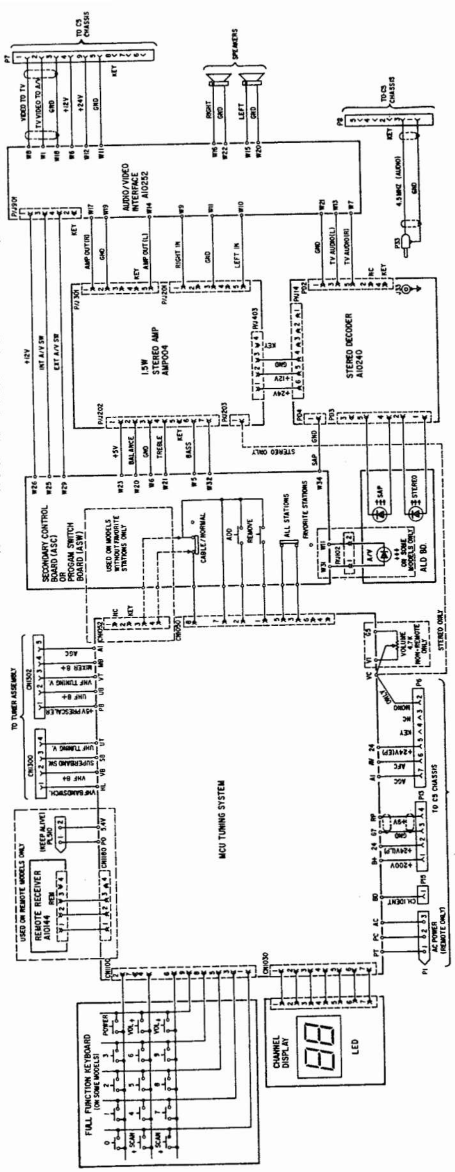


TS-9 INTERCONNECTING WIRING

MCU REMOTE TUNING SYSTEM ASSEMBLY (WITH/WITHOUT FAVORITE STATION) REPLACEMENT PARTS LIST (CONT'D)

Ref.	Description	Part No.
MISCELLANEOUS (Continued)		
	4 Pin CN1180 to IR Remote reciever Connector	1811931004
	5 Pin CN1302 Molex MCU to P22 (U/V Varactor Tuner)	1813802005
	4 Pin CN1300 Molex MCU + P21 (U/V Varactor)	1813802004
P1	5 Pin Housing Connector f/AC Remote Power	1816140005
	Terminal Crimp (3 used)	2006060001
P6	8 Pin Connector ATC to P6	1817140008
	Negative Polarizing Key f/P6	1813510001
P13	Housing Connector Locking Type MCU	1812101004
P13	Terminal Crimp (4 used)	1810110001
P15	1 Pin Connector f/Channel Identification	1812100001
	Terminal Crimp f/P15 (1 used)	1810110001
PL510	2 Pin Housing From Points P0 & 5.4 (Keep Alive)	1814200001
	Female Contacts f/PL510 (2 used)	1809300002
	Phono Plug From Point PS to Prescaler Output	1814050006
	IC Socket (16 Pin) (3 used)	1815220016
	IC Socket (18 Pin)	1815220018
	IC Socket (28 Pin)	1815220028
	Ferrite Bead	3640050003
	Heatsink - Clip On f/IC1500 (E.P.)	1037110001
	Heatsinks f/IC1500 & IC1502 (2 used - L.P. only)	7316650002
	Resistor Mounting Pins (4 used)	1808820003
XT1200	4MHz Crystal	5604420003
	Shield Wrap f/IC1000 (L.P.)	7344090002
	Shield Wrap f/IC1000 (E.P.)	7344090001
	Shield Covers (2 used - E.P.)	7344430001
	Shield Bottom (L.P.)	7347760001
	Keyboard	7043700001
S RY1500	Relay On - Off	1606750002

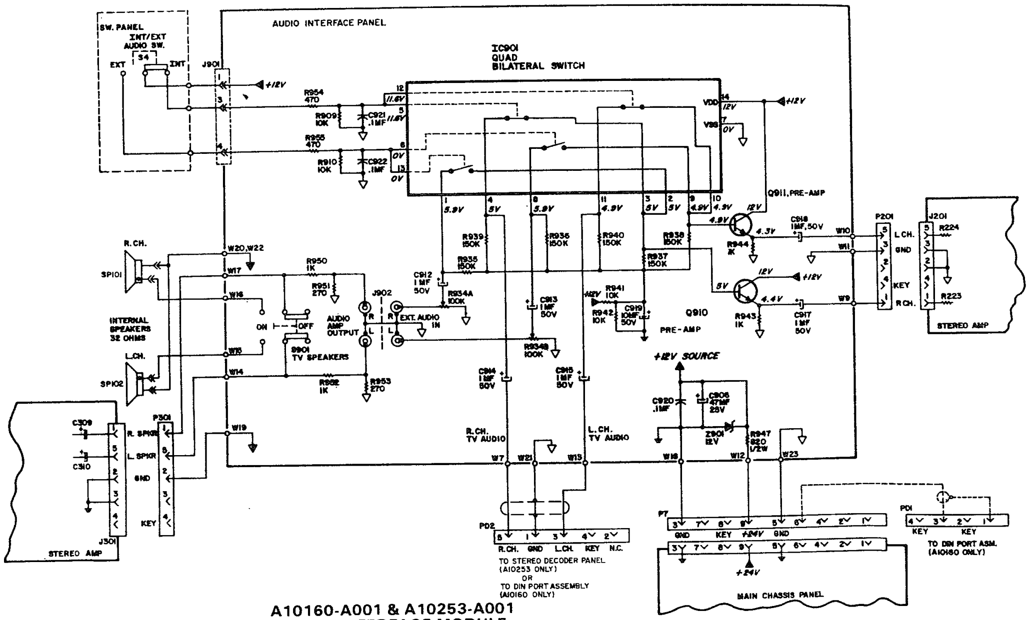
Courtesy of the Manufacturer



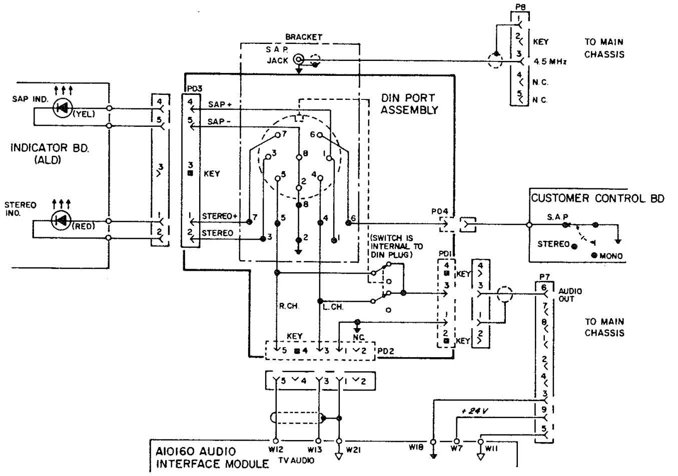
MCU TO 25C5 INTERCONNECT WIRING DIAGRAM

MCU TUNING SYSTEM PARTS LIST

A10160 & A10253 AUDIO INTERFACE MODULES SCHEMATIC DIAGRAM



DIN PORT WIRING DIAGRAM



A10160-A001 & A10253-A001 AUDIO INTERFACE MODULE REPLACEMENT PARTS LIST (CONT'D)

Ref.	Description	Part No.
RESISTORS (Continued)		
R943	1k	2302811025
R944	1k	2302811025
R947	820 ohm, ½W	2302828215
R950	1k	2302811025
R951	100 ohm, (A10160)	2302811015
R951	270 ohm, (A10253)	2302812715
R952	1k	2302811025
R953	100 ohm, (A10160)	2302811015
R953	270 ohm, (A10253)	2302812715
R954	470 ohm	2302814715
R955	470 ohm	2302814715
SEMICONDUCTORS		
Z901	Zener Diode, 12V	5301921120
Q910	Transistor, NPN (Audio Driver - R. Channel)	6102320002
Q911	Transistor, NPN (Audio Driver - L. Channel)	6102320002
IC901	Quad Bilateral Switch IC	6121860001
CONTROLS & SWITCHES		
S901	Slide Switch (On - Off Internal Speakers)	1605460010
CAPACITORS		
C906	47uF., 26V, Electrolytic	2701685126
C912	1uF., 50V, Electrolytic	2701681050
C913	1uf., 50V, Electrolytic	2701681050
C914	1uF., 50V, Electrolytic	2701681050
C915	1uF., 50V, Electrolytic	2701681050
C917	1uF., 50V, Electrolytic	2701681050
C918	1uF., 50V, Electrolytic	2701681050
C919	10uF., 50V, Electrolytic	2701681150
C920	.1uF., 100V, 20%, Polyester Film	2508451040
C921	.1uF., 100V, 20%, Polyester Film	2508451040
C922	.1uF., 100V, 20%, Polyester Film	2508451040

Ref.	Description	Part No.
CONTROLS & SWITCHES (Continued)		
	R934A & B Audio Input Level Adjust, 100k	2204220008
MISCELLANEOUS		
P7	9 Pin Connector	1812100009
	Contacts f/P7 (4 used)	1810110001
	Negative Polarizing Key f/P7	1810760001
PD1	4 Pin Connector (A10160 only)	1812100004
	Contacts f/PD1 (2 used)	1810110001
	Negative Polarizing Keys f/PD1 (2 used)	1810760001
PD2	5 Pin Connector	1812100005
	Contacts f/PD2 (3 used)	1810110001
	Negative Polarizing Key f/PD2	1810760001
P201	5 Pin Connector w/Contacts	1817140005
	Positive Polarizing Key f/P201	1813510002
P301	5 Pin Connector w/Contacts	1817140005
	Negative Polarizing Key f/P301	1813510001
J901	4 Pin Contact Wafer (P.C. Bd. Mtg.)	1814790204
J902	Phono Jack Assembly	1814780012
	Spade Lug Clips f/Speakers (4 used)	1024870011
RESISTORS (All are 5%, ¼W, Carbon Film unless otherwise specified)		
R909	10k	2302811035
R910	10k	2302811035
R935	150k	2302811545
R936	150k	2302811545
R937	150k	2302811545
R938	150k	2302811545
R939	150k	2302811545
R940	150k	2302811545
R941	10k	2302811035
R942	10k	2302811035

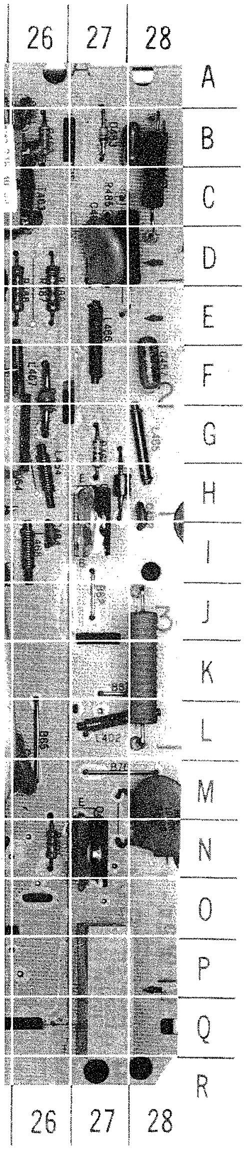
7050610002 DIN PORT ASSEMBLY REPLACEMENT PARTS LIST

Ref.	Description	Part No.
CONTROL ASSEMBLY		
A10198	DIN Port Module	A10198-A001
	- Waffer Connector (PD1)	1813810010
	- Waffer Connector (PD2)	1813810011
	- Waffer Connector (PD3)	1813810012
	- 8 Pin DIN Jack	1816240001
MISCELLANEOUS		
	Phono Jack (Stereo/S.A.P.)	1816250001
	P8, 5 Pin Connector	1812100005
	Positive Polarizing Key f/P8	1810760002
	Contacts f/P8 (2 used)	1810110001

SCHEMATIC NOTES:

1. CAPACITANCE VALUES OF 1 OR GREATER ARE IN PICO-FARADS.
2. CAPACITANCE VALUES OF LESS THAN 1 ARE IN MICRO-FARADS.
3. FOR VOLTAGE, WATTAGE OR TOLERANCE RATINGS ON CAPACITORS OR RESISTORS, REFER TO THE ELECTRICAL REPLACEMENT PARTS LIST.
4. D.C. VOLTAGES SHOWN ON THIS SCHEMATIC WERE TAKEN UNDER THE FOLLOWING CONDITIONS:
   TREBLE & BASS SET TO MINIMUM.
   BALANCE CONTROL AT MIDRANGE.
   VOLUME CONTROL AT MINIMUM.
   NO SIGNAL INPUT.

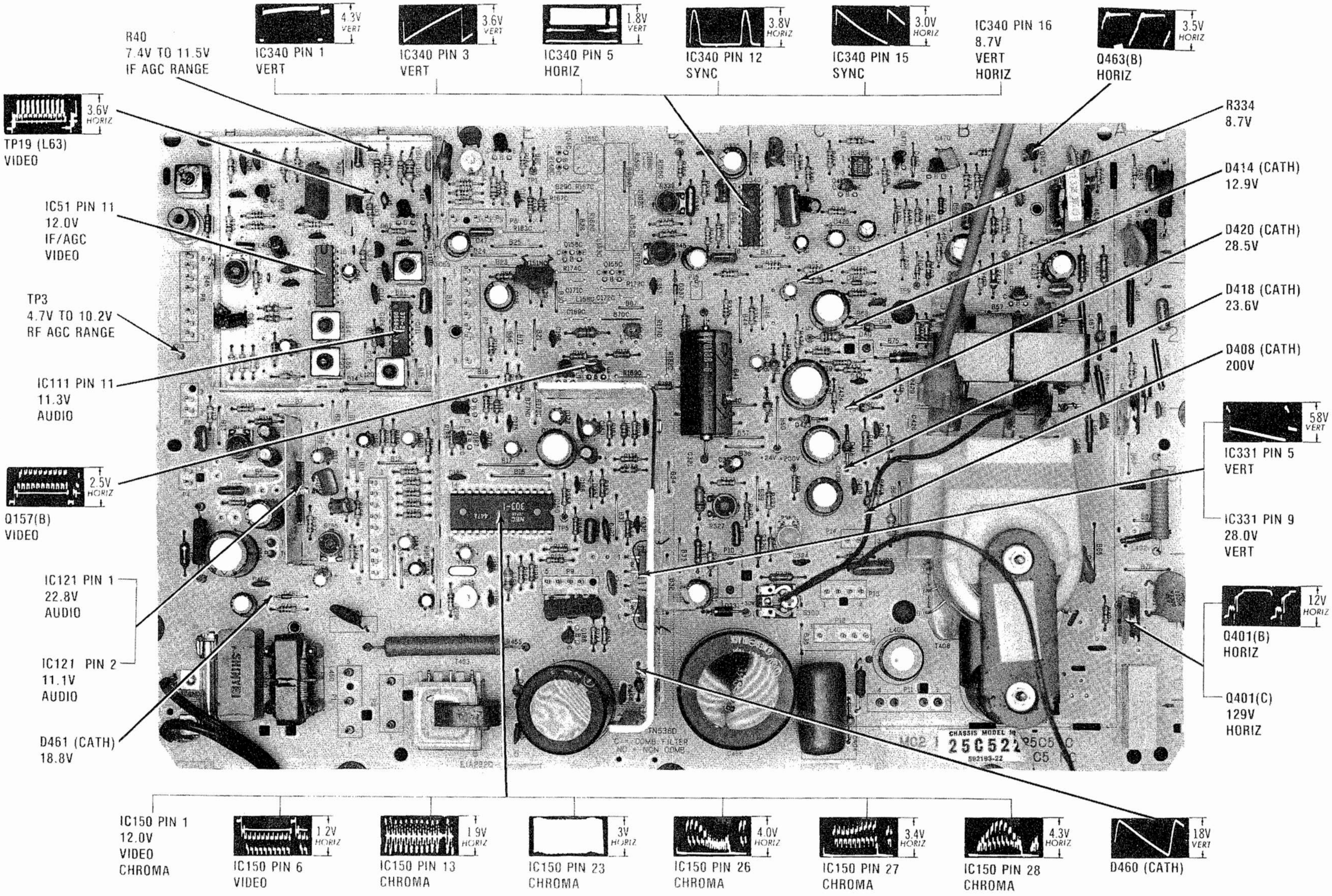
Courtesy of Manufacturer



MAIN BOARD

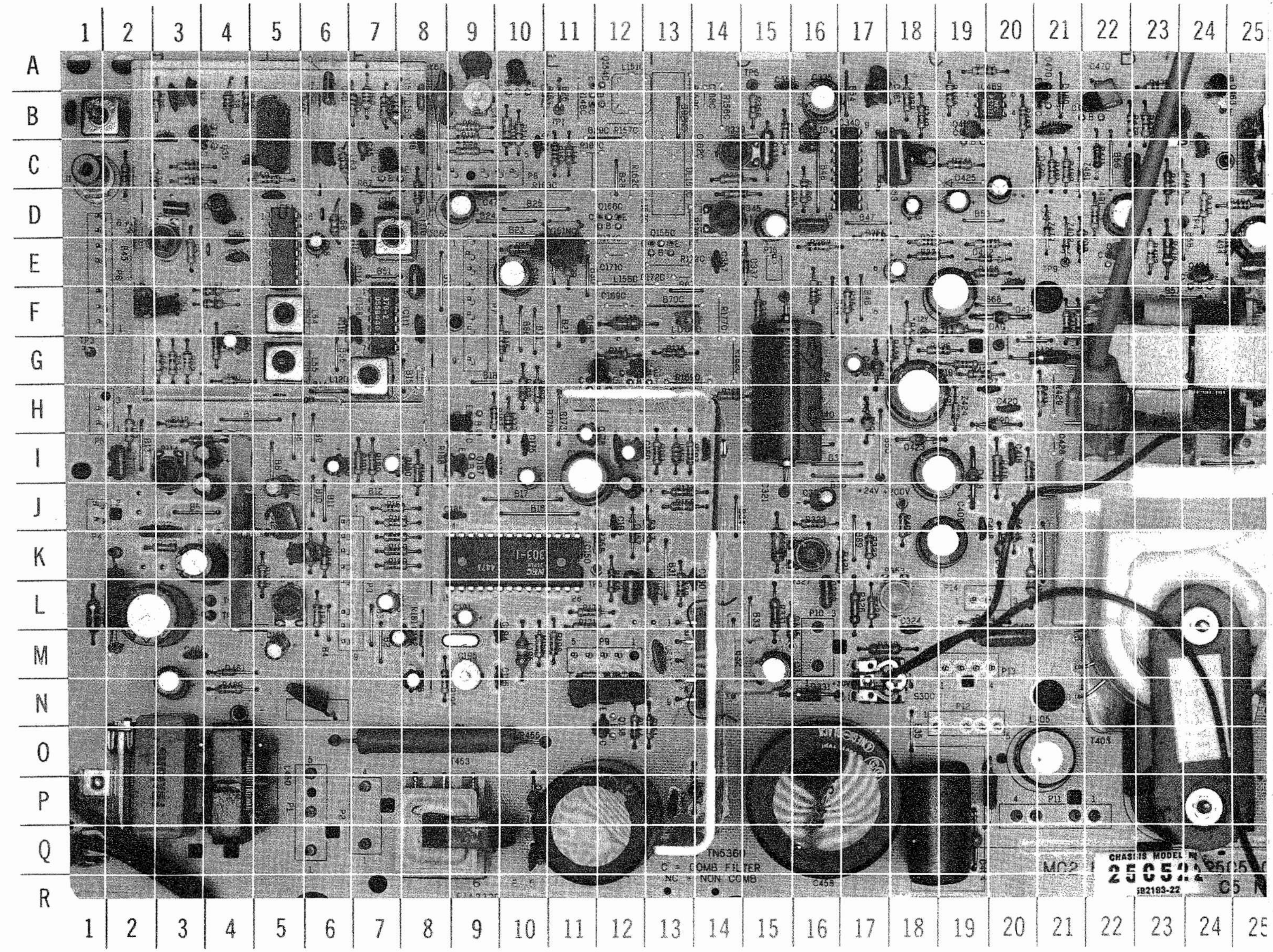
MAIN BOARD-GridTrace LOCATION GUIDE

C35	B-3	C337	D-15	IC111	F-7	R40	B-6	R333	D-15	T453	Q-8
C36	B-3	C338	C-15	IC121	J-4	R41	C-2	R334	E-18	T463	C-25
C37	A-3	C340	C-18	IC150	K-10	R50	E-3	R335	F-16	T488	G-24
C38	B-2	C341	D-19	IC331	M-13	R51	E-3	R336	B-15	TP1	B-1
C40	A-6	C344	B-16	IC340	C-17	R52	G-3	R337	F-15	TP4	E-24
C41	C-6	C353	C-18	IC469	B-20	R55	G-3	R338	C-14	TP5	K-11
C42	D-5	C356	A-15	J1	C-1	R59	C-5	R339	C-14	TP6	A-15
C44	B-9	C357	E-14	L38	B-4	R60	B-7	R340	B-18	TP9	E-21
C45	C-7	C360	D-16	L39	B-1	R61	G-4	R341	C-19	TP18	B-6
C46	B-8	C361	A-17	L40	D-3	R62	G-3	R344	D-14	TP19	C-6
C47	D-9	C362	E-18	L53	F-4	R65	E-10	R345	D-14	TP20	F-3
C51	D-4	C363	D-18	L54	F-5	R66	B-9	R352	E-18	TP21	F-18
C53	G-4	C401	M-28	L55	G-5	R67	C-7	R353	L-18	TP22	L-9
C55	E-4	C402	P-27	L58	D-6	R68	C-9	R354	F-17	Y62	B-8
C56	E-4	C404	P-18	L61	F-4	R69	D-8	R355	D-17	Y150	B-8
C58	E-6	C405	M-26	L63	C-6	R70	F-2	R356	B-15	Y151 NC	E-11
C59	C-5	C408	J-19	L120	G-7	R112	H-3	R357	J-13	Y194	M-9
C60	B-7	C409	K-19	L121	L-1	R114	I-3	R358	K-12	Z60	G-4
C63	F-3	C414	E-20	L150	B-7	R115	G-10	R359	L-12	Z402	E-21
C64	D-7	C416	F-19	L154	C-11	R116	F-6	R360	D-16	Z424	H-19
C65	D-9	C418	I-20	L157	I-13	R117	H-2	R361	C-18	Z479	D-21
C110	D-7	C419	I-18	L170 NC	F-13	R118	I-3	R362	E-16	Z481	C-21
C111	E-7	C420	H-20	L177	H-10	R119	B-9	R363	B-18		
C112	E-7	C421	H-18	L178	F-12	R123	K-3	R400	K-28		
C113	I-4	C422	M-20	L195	M-10	R124	L-2	R401	N-26		
C114	E-8	C425	J-23	L401	P-25	R127	K-5	R402	E-21		
C115	F-8	C426	G-17	L402	L-27	R144	N-12	R404	I-23		
C116	E-10	C427	H-20	L405	O-21	R145	B-10	R405	P-20		
C117	J-5	C450	P-3	L410	L-20	R150	B-7	R408	K-20		
C119	B-10	C452	H-28	L414	F-19	R151	N-13	R409	J-18		
C121	L-2	C453	B-25	L450	P-4	R152	H-13	R410	L-20		
C122	J-4	C454	D-20	L464	H-26	R153	B-11	R411	H-21		
C123	J-3	C455	Q-10	L465	G-28	R154	G-12	R414	F-21		
C124	K-3	C456	N-3	L466	E-27	R155	C-11	R415	F-2		
C125	J-5	C457	F-28	L467	F-26	R158	J-13	R418	I-20		
C126	I-2	C458	P-16	L468	I-26	R160	K-7	R420	I-20		
C128	F-7	C459	P-13	LC199 NC	N-12	R161	I-13	R424	F-18		
C145	A-9	C460	B-28	P1	P-5	R163	J-7	R425	G-21		
C157	I-12	C461	B-26	P2	Q-7	R164	K-7	R426	G-19		
C158 NC	I-14	C462	M-3	P3	K-6	R165	J-7	R427	G-19		
C159	I-10	C464	I-26	P4	J-1	R166	H-14	R428	G-18		
C160	I-12	C465	I-25	P5	H-1	R168	M-10	R451	N-6		
C161	J-12	C467	D-27	P6	E-1	R170	L-11	R455	O-8		
C163	I-11	C470	B-22	P7	E-9	R171	L-11	R456	E-20		
C164	K-5	C472	C-23	P8	C-9	R175	G-13	R457	A-19		
C165	M-5	C475	C-24	P9	M-12	R178	J-13	R458	B-19		
C166	J-12	C476	P-12	P10	M-16	R179	E-11	R459	E-20		
C167	L-13	C480	B-21	P11	P-21	R180	I-8	R460	D-28		
C174	C-10	C481	D-22	P12	N-19	R181	M-8	R461	B-28		
C175	I-10	C494	E-25	P13	M-19	R184	L-6	R462	G-27		
C176	I-9	C495	D-25	P14	L-19	R185	L-5	R463	B-26		
C178	I-11	D190	G-17	P15	E-15	R186	K-6	R464	D-25		
C180	I-7	D191	H-17	P19	G-20	R187	H-9	R471	C-22		
C181	L-9	D331	N-16	Q35	B-3	R188	I-8	R472	C-23		
C182	M-8	D337	E-15	Q36	C-7	R189	I-7	R473	B-23		
C183	L-7	D357	K-12	Q153	A-10	R190	K-6	R474	B-23		
C184	L-12	D401	J-24	Q157	G-12	R191	I-7	R475	A-23		
C185	J-9	D404	Q-19	Q158	G-12	R192	H-10	R476	C-23		
C186	F-11	D408	K-20	Q187	I-9	R193	H-10	R477	D-24		
C188	N-8	D414	F-20	Q188	O-12	R194	G-19	R478	E-23		
C189	I-6	D418	I-19	Q191	H-9	R195	N-8	R479	B-22		
C194	M-9	D420	H-20	Q401	N-27	R197	I-13	R480	C-21		
C195	M-9	D423	I-18	Q457	B-19	R198	M-11	R481	C-21		
C196	M-9	D459	P-10	Q463	A-24	R199	K-7	R482	C-24		
C321	G-15	D460	P-13	Q464	H-27	R320	M-17	R483	B-20		
C322	J-16	D461	M-4	Q470	B-21	R321	K-16	R488	E-26		
C323	L-16	D462	E-20	Q471	B-22	R322	K-17	R489	N-4		
C324	M-18	D463	B-27	Q492	E-22	R323	J-16	R491	D-22		
C325	L-15	D465	F-26	Q494	E-24	R325	K-15	R492	B-23		
C330	K-13	D470	C-21	R35	C-3	R326	L-17	R494	E-24		
C331	M-15	D480	B-21	R36	B-3	R327	K-16	S300	N-17		
C332	M-13	F450	P-2	R37	C-3	R328	L-17	SF38	B-5		
C334	B-17	FB400	G-27	R38	B-4	R331	L-15	T110	D-7		
C335	B-16	IC51	E-5	R39	C-3	R332	L-13	T408	L-24		



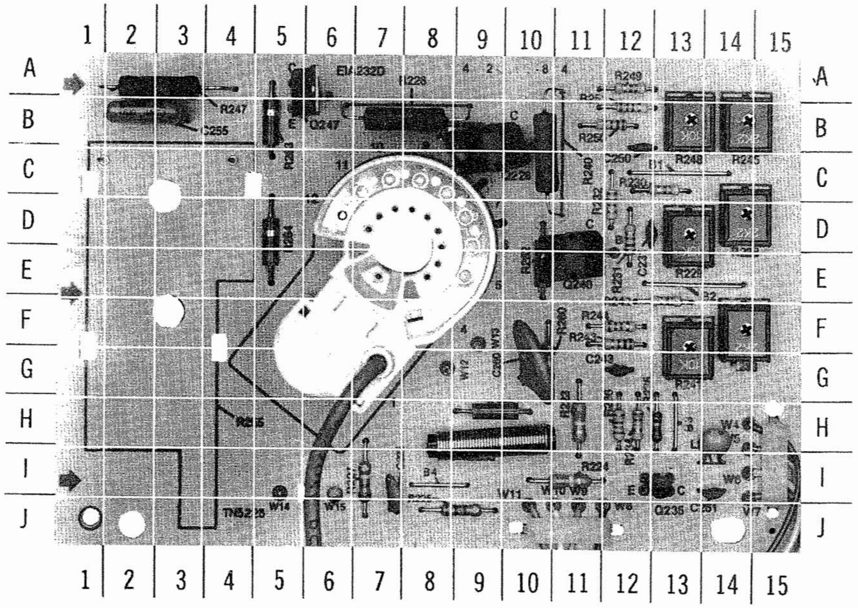
A Howard W. Sams QUICK-CHECKS™ Photo

MAIN BOARD



MAIN BOARD

A Howard W. Sams GRIDTRACE™ Photo

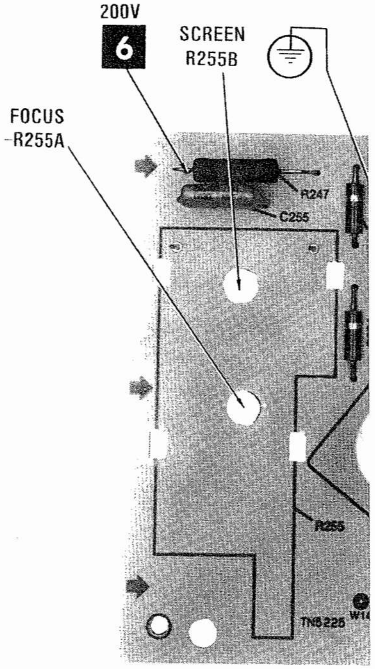


CRT BOARD

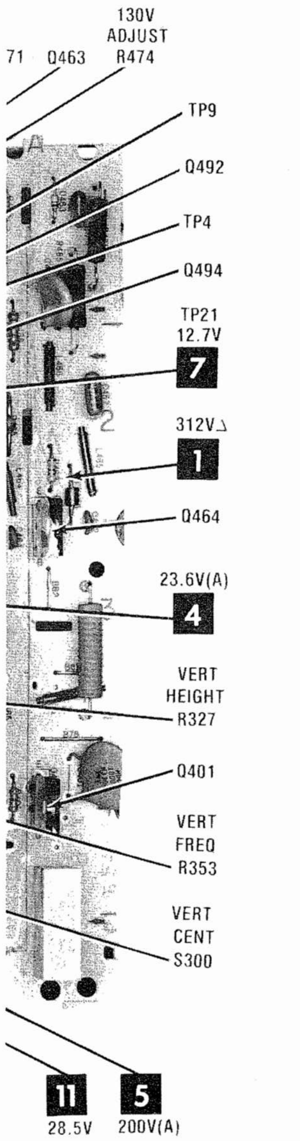
A Howard W. Sams GRIDTRACE™ Photo

CRT BOARD-
GridTrace
LOCATION GUIDE

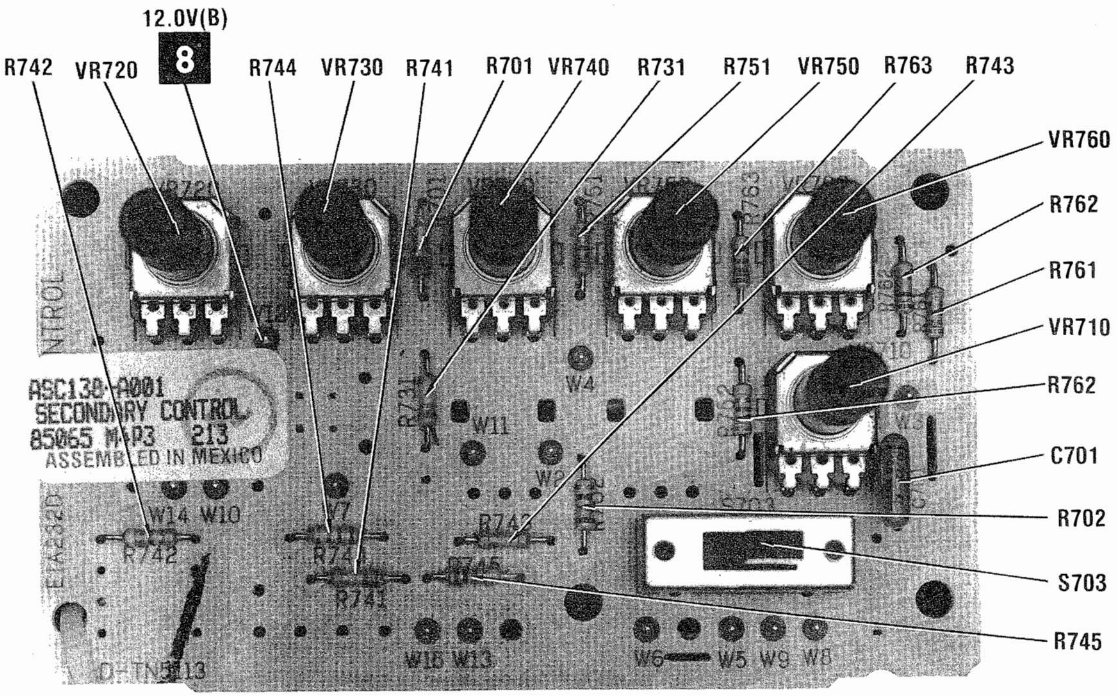
C225	I-7
C231	D-13
C243	G-12
C250	B-12
C255	B-2
C260	G-10
C261	I-14
L260	H-9
L261	H-14
Q226	B-10
Q235	I-13
Q240	E-11
Q247	A-6
R223	H-11
R224	I-11
R225	J-9
R226	B-8
R227	I-7
R228	D-14
R229	D-13
R230	C-13
R231	D-12
R232	D-12
R233	F-14
R234	H-12
R235	H-13
R236	H-12
R240	B-10
R241	F-13
R242	E-13
R243	F-12
R244	F-12
R245	B-14
R247	A-3
R248	B-13
R249	A-12
R250	B-12
R251	B-12
R255A	F-3
R255B	D-3
R259	H-9
R260	G-10
R261	B-9
R262	E-10
R263	B-5
R264	D-5
W12	G-8
W13	F-9



CRT BOARD

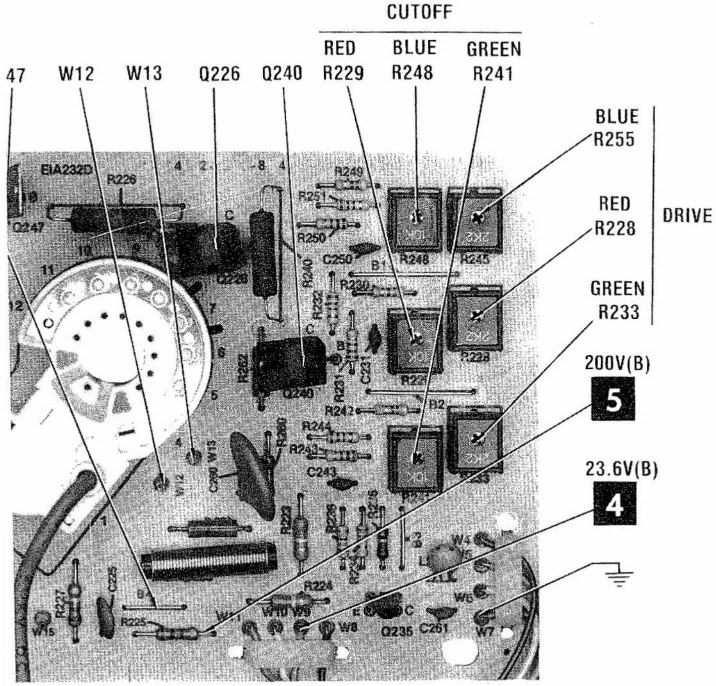


MAIN BOARD

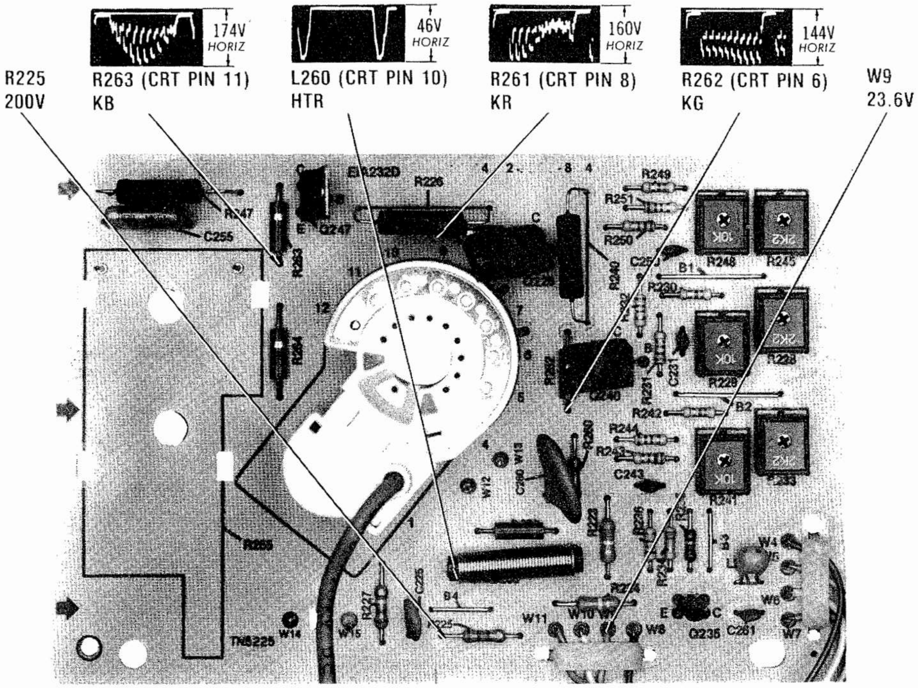


A Howard W. Sams CIRCUITRACE Photo

SECONDARY CONTROL BOARDS

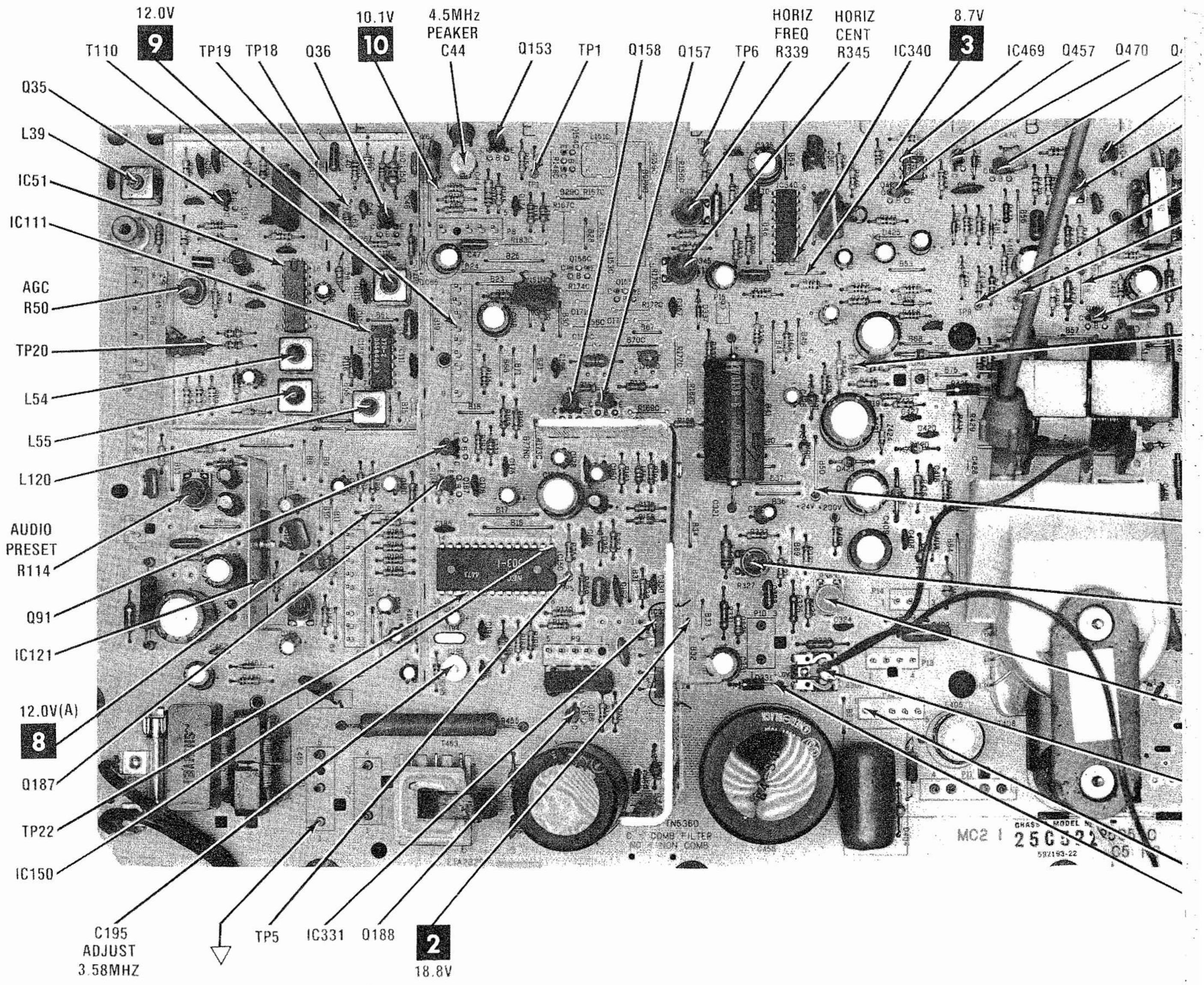


A Howard W. Sams CIRCUITRACE® Photo



CRT BOARD

A Howard W. Sams QUICK-CHECKS™ Photo

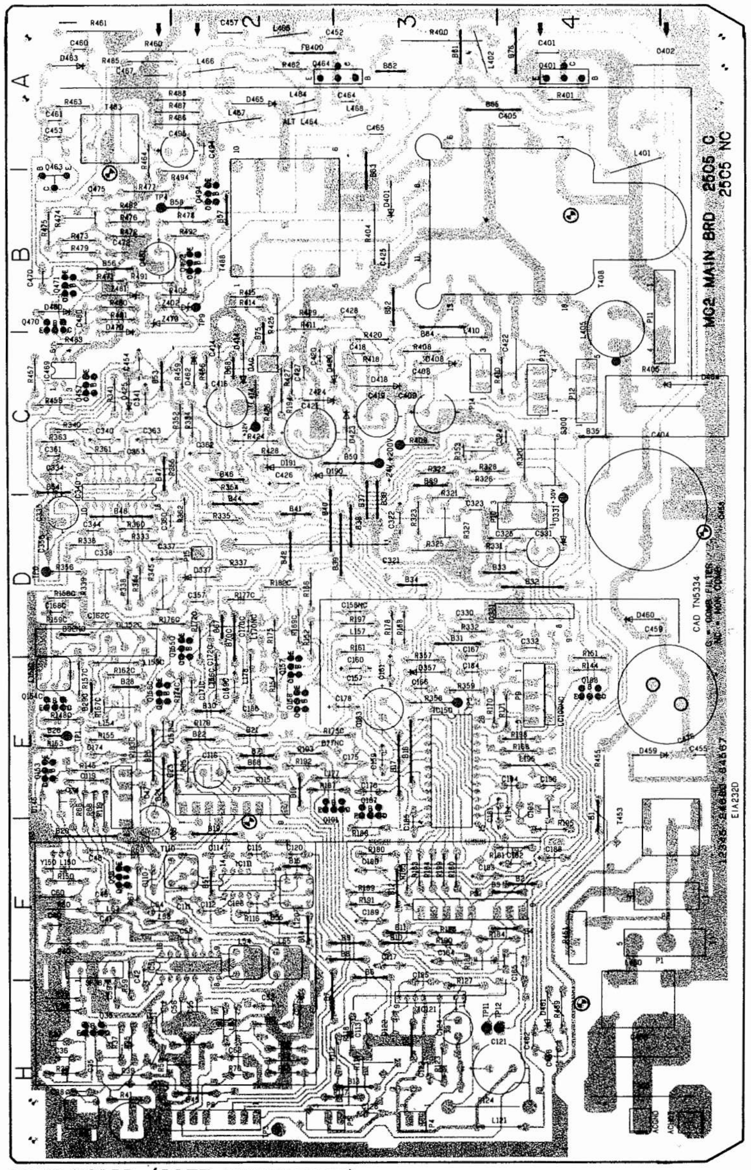


MAIN BOARD

A Howard W. Sams CIRCUITRACE® Photo

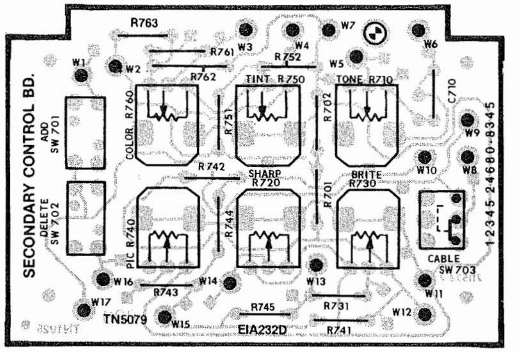
MAIN CHASSIS BOARD OVERLAY; COMB FILTER
MAIN CHASSIS BOARD OVERLAY; NON-COMB FILTER
(LATE PRODUCTION, VIEWED FROM THE COMPONENT SIDE)

Courtesy of the Manufacturer

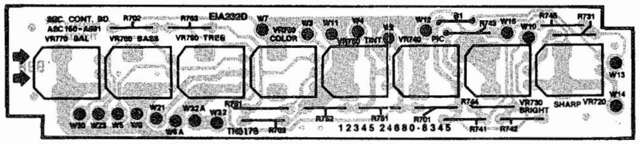


MAIN BOARD (LATE PRODUCTION)

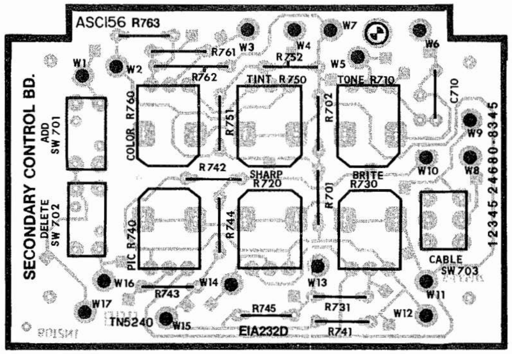
ASC103, ASC118, ASC134 & ASC137
SECONDARY CONTROL MODULE P.C. BOARD OVERLAYS
(VIEWED FROM THE COMPONENT SIDE)



ASC150 (SUPER SLIM)
SECONDARY CONTROL MODULE P.C. BOARD OVERLAYS
(VIEWED FROM THE COMPONENT SIDE)



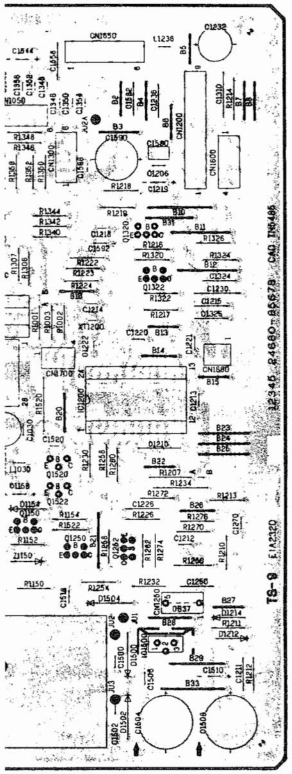
ASC156 & ASC171
SECONDARY CONTROL MODULE P.C. BOARD OVERLAYS
(VIEWED FROM THE COPPER SIDE)



Courtesy of the Manufacturer

SECONDARY CONTROL BOARDS

)NTROL MODULES
\10204-B002 P.C. BOARD OVERLAY
IE COMPONENT SIDE)



NOTE:
THE P.C. BOARD OVERLAY SHOWN BELOW HAS BEEN TOOLED AND SCREENED FOR USE IN SEVERAL DIFFERENT FORMS (REMOTE, NON-REMOTE, WITH FAVORITE STATION, WITHOUT FAVORITE STATION). REFER TO THE ELECTRICAL REPLACEMENT PARTS LIST AND SCHEMATIC DIAGRAM FOR COMPONENT USAGE.

›sy of Manufacturer

PARTS LIST AND DESCRIPTION

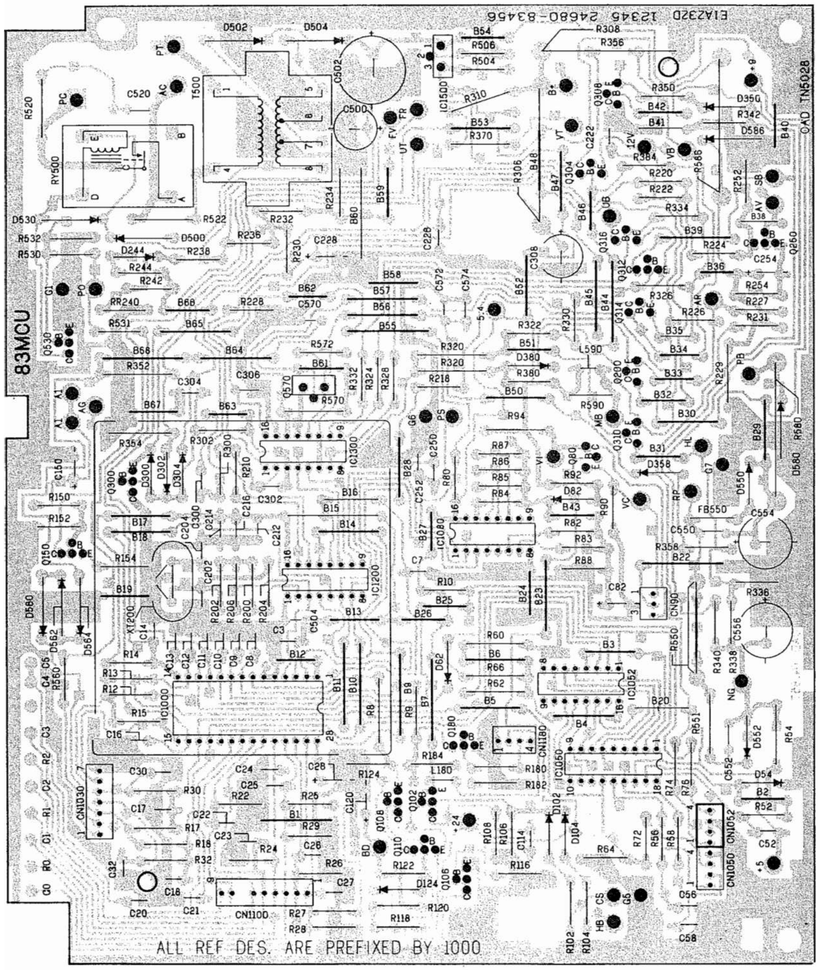
When ordering parts, state Model, Part Number, and Description

SEMICONDUCTORS (Select replacement transistor for best results)

ITEM No.	TYPE No.	MFGR. PART No.	REPLACEMENT DATA					
			NOTES	NTE PART No.	ECG PART No.	RCA PART No.	WORKMAN PART No.	ZENITH PART No.
MAIN BOARD								
D190,191		5302600002		NTE552	ECG552	SK9000/552	WEP172/506	103-287
D331		5301710001		NTE116	ECG116	SK3311	WEP156	212-76-02
D337		5301810001		NTE177	ECG177	SK9091/177	WEP1062/177	103-131
D357		5301810001		NTE177	ECG177	SK9091/177	WEP1062/177	103-131
# D401		5302660001						
D404		5302600002		NTE552	ECG552	SK9000/552	WEP172/506	103-287
D408		5302600002		NTE552	ECG552	SK9000/552	WEP172/506	103-287
D414		5303050002		NTE552	ECG552	SK9000/552	WEP172/506	103-287
D418		5303050002		NTE552	ECG552	SK9000/552	WEP172/506	103-287
D420		5302600002		NTE552	ECG552	SK9000/552	WEP172/506	103-287
D423		5302600002		NTE552	ECG552	SK9000/552	WEP172/506	103-287
D425		5301810001	(6)	NTE177	ECG177	SK9091/177	WEP1062/177	103-131
D459,460		5302620001		NTE552	ECG552	SK9000/552	WEP172/506	103-287
D461,462		5301810001		NTE177	ECG177	SK9091/177	WEP1062/177	103-131
D463		5302610001		NTE552	ECG552	SK9000/552	WEP172/506	103-287
# D465		5303050003		NTE552	ECG552	SK9000/552	WEP172/506	103-287
D470		5301810001		NTE177	ECG177	SK9091/177	WEP1062/177	103-131
D480		5301810001		NTE177	ECG177	SK9091/177	WEP1062/177	103-131
IC51	126-1	6121260001				SK7635		
		6123940002				SK7635		
IC111	370-2	6123700002		NTE1580	ECG1580	SK7743/1580		
IC121	327-1	6123270001		NTE1566	ECG1566	SK7726/1566		
IC150	303-1	6123030001		NTE1416	ECG1416	SK9016/1410	WEP1416L/1416	
IC331	444-1	6124440001			ECG1567			
IC340	445-1	6124450001			ECG1632			
# IC469	PS2021	5303000001		NTE3041	ECG3041	SK2041/3041		
Q35	390-1	6103900001		NTE395+	ECG395+	SK9434+		
Q36	435-2	6104350002		NTE123AP+	ECG123AP+	SK3854/123AP+	WEP736/123A+	121-Z9000A+

MCU (EARLY PRODUCTION) CONTROL PANEL (VIEWED FROM THE COMPONENT SIDE)

NOTE:
THE P.C. BOARD OVERLAY SHOWN BELOW HAS BEEN TOOLED AND SCREENED FOR USE IN SEVERAL OTHER CHASSIS. REFER TO THE ELECTRICAL REPLACEMENT PARTS LIST AND SCHEMATIC DIAGRAM FOR COMPONENT USAGE.

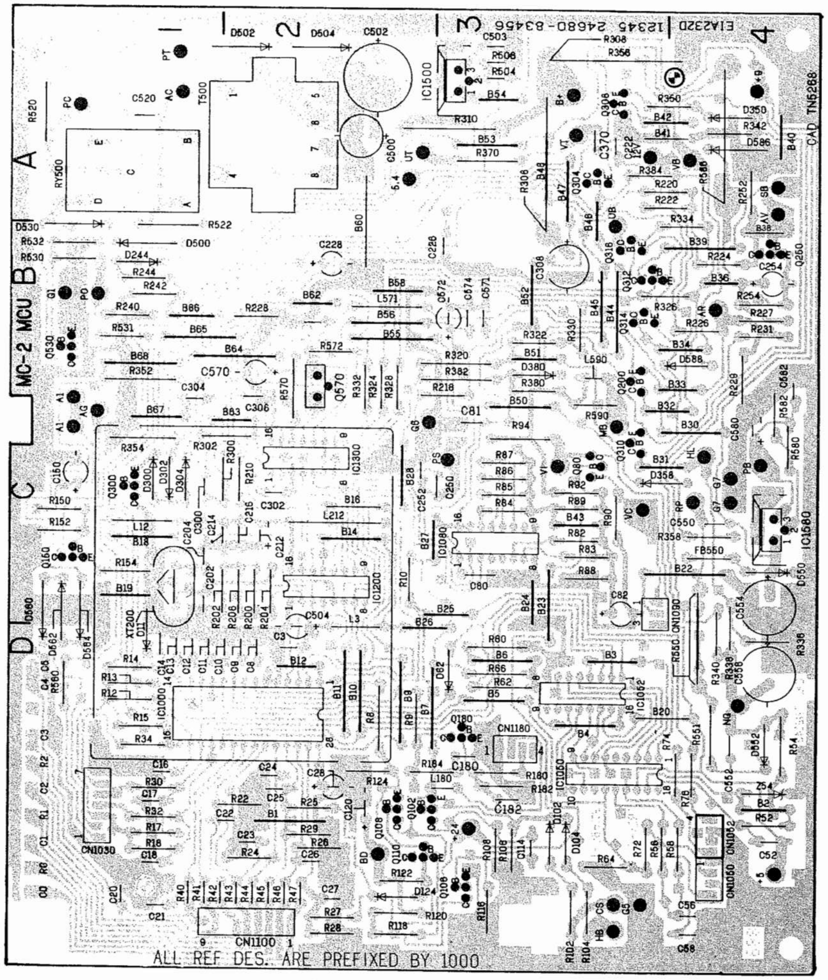


Courtesy of the Manufacturer

MCU CONTROL BOARD (EARLY PRODUCTION)

MCU (LATE PRODUCTION) CONTROL PANEL (VIEWED FROM THE COMPONENT SIDE)

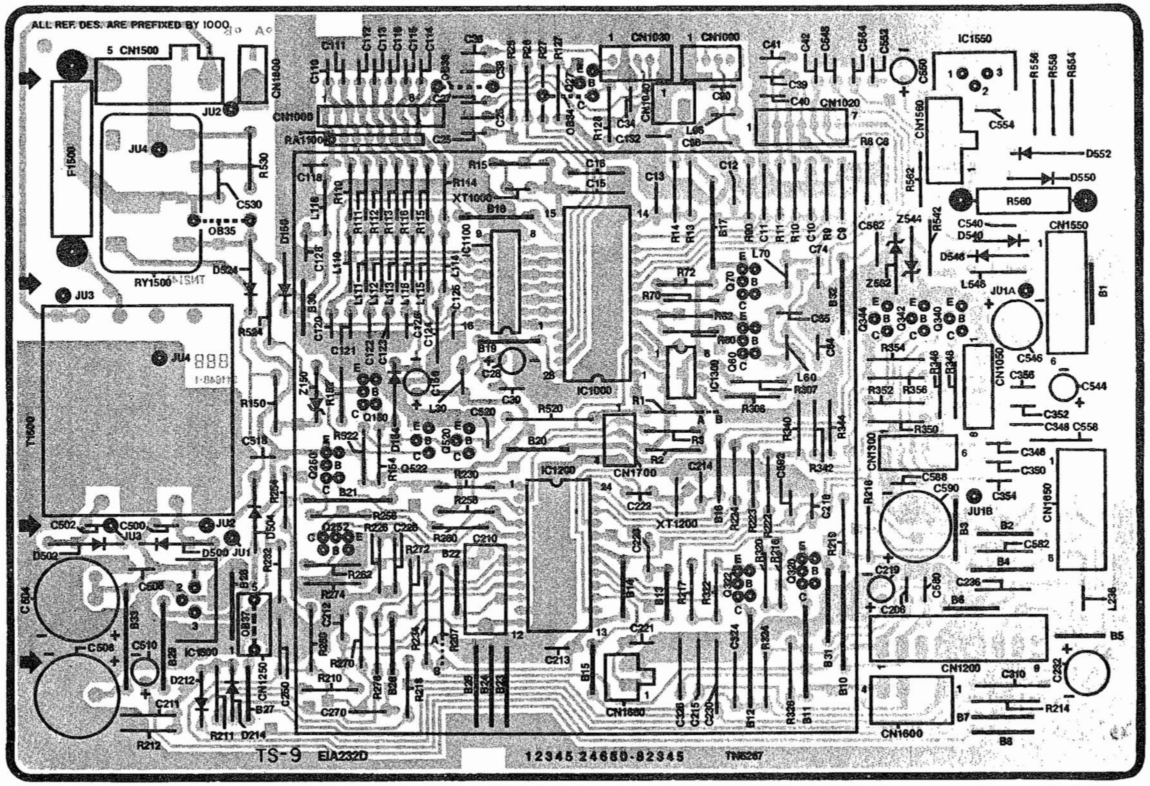
NOTE:
THE P.C. BOARD OVERLAY SHOWN BELOW HAS BEEN TOOLED AND SCREENED FOR USE IN SEVERAL OTHER CHASSIS. REFER TO THE ELECTRICAL REPLACEMENT PARTS LIST AND SCHEMATIC DIAGRAM FOR COMPONENT USAGE



Courtesy of the Manufacturer

MCU CONTROL BOARD (LATE PRODUCTION)

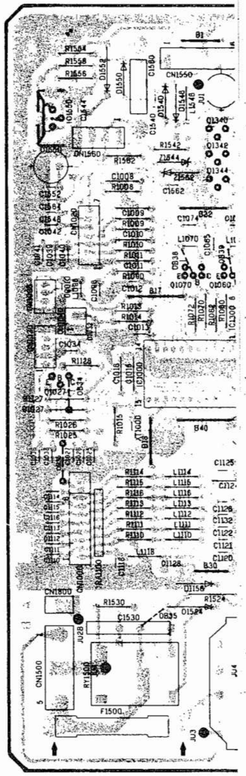
TS-9 TUNER CONTROL MODULES
A10201-A001, A10202-A001 & A10204-A001 P.C. BOARD OVERLAY
(VIEWED FROM THE COMPONENT SIDE)



Courtesy of Manufacturer

TS-9 TUNER CONTROL (A10201-A001,A10202-A001,A10204-A001)

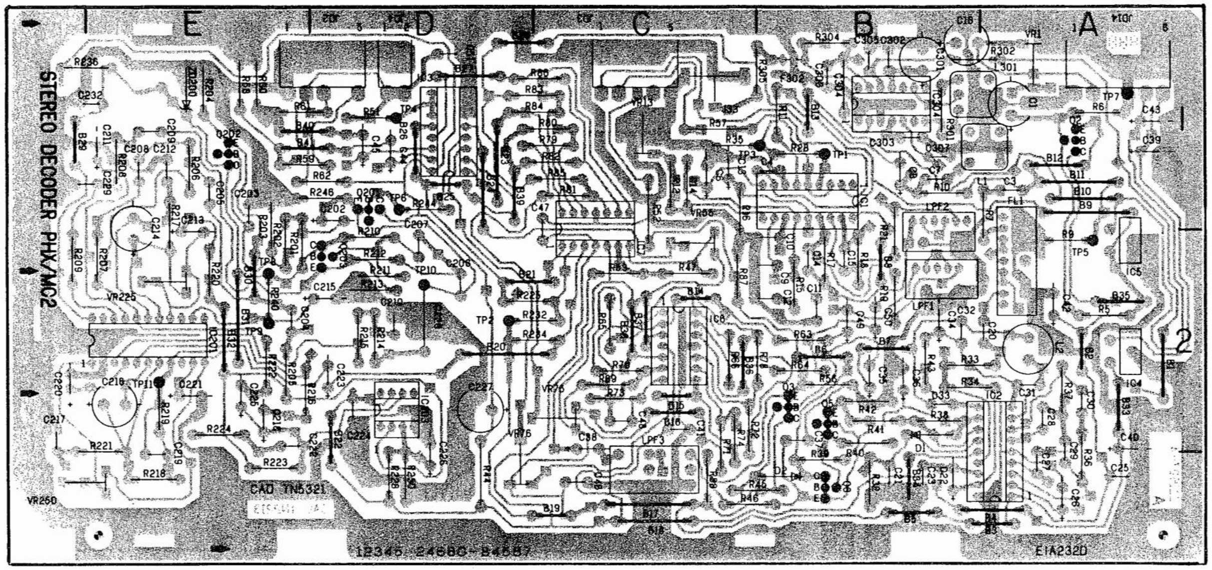
TS-9 TUNER C
A10201-B002, A10202-B002 &
(VIEWED FROM T



Cour

TS-9 TUNER CONTROL

A10240-A001 STEREO DECODER PANEL P.C. BOARD OVERLAY
(VIEWED FROM THE COMPONENT SIDE)



Courtesy of Manufacturer

STEREO DECODER BOARD

A10160 & A
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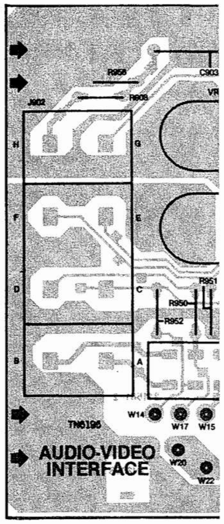

Note: Not all o
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AMP004-A001 & -B002 S
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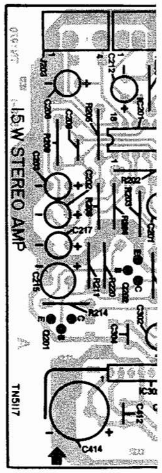


AMP004 P.C. Board Notes:

1. The following components are incorporated on the AMP004-B002 Version only: D403, D404, D405, D406, C403, C404, C405, C406, C407, C408 & R402.
2. The component location of R403 has been replaced by a jumper.

Courtesy of Manufacturer

PARTS LIST AND DESCRIPTION (Continued)

When ordering parts, state Model, Part Number, and Description

ELECTROLYTIC CAPACITORS

ITEM No.	RATING	MFGR. PART No.
C458A	200 385V	2701710001
B	40 385V	
C	40 385V	

ITEM No.	RATING	MFGR. PART No.

For SAFETY use only equivalent replacement part.
Items Not Listed Are Normally Available At Local Distributors.

CAPACITORS

ITEM No.	RATING	MFGR. PART No.
C38	18 NPO 50V 5%	2508411805
C44	2-40 Trimmer	2602290001
C45	15 N220 50V 5%	
	15 NPO 50V 5%	2508411505
	10 NPO 50V 10%	2508411008
C46	100 NPO 50V 5%	2508411015
	22 NPO 50V 5%	2508412205
C64	56 NPO 50V 5%	2508415605
C110	5 NPO 50V ±.25pF	
	4.7 NPO 50V ±.25pF	2508415097
	33 NPO 50V 5%	2508413305
C157	390 N750 50V 5%	2508433915
	220 NPO 50V 5%	2508422215
C158	47 NPO 50V 5%	2508414705
C166	39 NPO 50V 5%	2508413905
C167	220 N220 50V 5%	2508422215
C170	82 NPO 50V 5%	2508418205
	120 NPO 50V 5%	2508411215

	ITEM No.	RATING	MFGR. PART No.
	C171	4.7 NPO 50V ±25	2508415097
	C172	36 NPO 50V 5%	2508413605
		47 NPO 50V 5%	2508414705
	C175	39 NPO 50V 5%	2508413905
	C176	82 NPO 50V 5%	2508418205
	C186	180 N220 50V 5%	2508421815
		150 NPO 50V 5%	2508411515
	C194	56 NPO 50V 5%	2508415605
	C195	2-40 Trimmer	2602290001
	C196	22 N750 50V 5%	2508412205
	C332	68 N750 50V 5%	2508686805
	C356	68 NPO 50V 5%	2508416805
#	C401	.001 2KV 10%	2508850009
#	C402	.012 2KV 5%	2508181235
#	C404	.43 400V 5%	2508050004
#	C405	.0047 125VAC	2506260014
#	C450	.22 120VAC	2509842240
	C453	68 N750 50V 5%	2508686805
	C480	390 N750 50V 5%	2508433915

For SAFETY use only equivalent replacement part.
Items Not Listed Are Normally Available At Local Distributors.

CONTROLS (All wattages 1/2 watt, or less, unless listed)

	ITEM NO.	FUNCTION	RESISTANCE	MFGR. PART NO.	NOTES
		MAIN CHASSIS			
	R50	RF Delay Adjust	22K	2204162232	
	R114	Audio Preset	10K	2204161032	
	R167	Chroma Null	560	2204165612	
	R185	Sub-Brite	10K	2204161032	
	R327	Vertical Height	100	2204161012	
	R339	Horizontal Frequency	10K	2204161032	
	R345	Horizontal Center	10K	2204161032	
	R353	Vertical Frequency	220K	2204162242	
	R474	+120V DC Adjust	10K	2204161032	
		CRT MODULE			
	R228	Red Drive	2200	2204202222	
	R229	Red Cutoff	10K	2204201032	
	R233	Green Drive	2200	2204202222	
	R241	Green Cutoff	10K	2204201032	
	R245	Blue Drive	2200	2204202222	
	R248	Blue Cutoff	10K	2204201032	
#	R255A	Focus	100M	2204620001	
#	B	Screen	100M		
		SECONDARY CONTROL			

PARTS LIST AND DESCRIPTION (Continued)

When ordering parts, state Model, Part Number, and Description

CONTROLS (All wattages 1/2 watt, or less, unless listed)

ITEM NO.	FUNCTION	RESISTANCE	MFGR. PART NO.	NOTES
R710	Tone	10K	2204600006	
		10K	2204590015	
R720	Sharpness	10K	2204600007	
		Detent @ 50%	2204590016	
R730	Brightness	10K	2204600006	
			2204590001	
R740	Picture	10K	2204600004	
			2204590001	
R750	Tint	10K	2204600004	
			2204590001	
R760	Color	10K	2204600004	
			2204590001	
VR770	Balance	50K	2204590011	
VR780	Bass	50K	2204590011	
VR790	Treble	50K	2204590011	

For SAFETY use only equivalent replacement part.

RESISTORS (Power and Special)

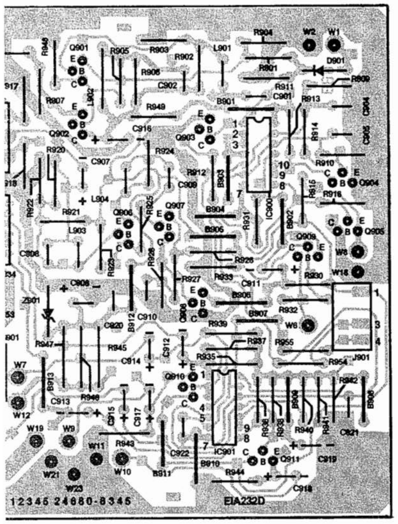
	ITEM No.	RATING	REPLACEMENT DATA MFGR. PART No.	NTE PART No.	WORKMAN PART No.
		MAIN CHASSIS			
	R155	1000 2% 1/4W Carbon Film	2302811022	QW210	
	R174	1600 2% 1/4W Carbon Film	2302811622	QW216	
	R400	1.5 10% 7W WW	2401221589		
		1.3 10% 7W WW	2401090004		
#	R402	30.9 1% .4W Metal Film	2302753099		
#	R404	4.7M 5% 1/2W Metal Film	2302674755		
#	R405	1000 5% 1.6W Metal Film	2303091025		
#	R408	2.2 5% 1/3W Metal Film	2302682285		
#	R410	1 5% 1/3W Metal Film	2302681085		
#	R414	1 5% 1/3W Metal Film	2302681085		
#	R415	1 5% 1/3W Metal Film	2302681085		
#	R418	1 5% 1/2W Metal Film	2302271085	HW1D0	
#	R420	1 5% 1/3W Metal Film	2302681085		
#	R451	7.4 Cold PTC	2302070008		FR605
#	R455	1.8 10% 10W Metal Film			
		1.8 5% 10W Metal Film	2400820008		
	R471	270 2% 1/4W Carbon Film	2302812712	QW127	
	R472	5490 1% .4W Metal Film	2302755492		
	R475	330 2% 1/4W Carbon Film	2302813312	QW133	
	R476	115K 1% .4W Metal Film	2302751154		
	R479	150K 2% 1/4W Carbon Film	2302811542	QW415	
	R486	1 2% 1/2W Metal Film	2302761008	HW1D0	
	R488	1 2% 1/2W Metal Film	2302761008	HW1D0	
#	R489	2.2 5% 1/3W Carbon Film	2302682285		
		TUNER CONTROL UNIT			
	LDR1	Light Dependent Resistor	2303160002		

For SAFETY use only equivalent replacement part.

WIRING DATA

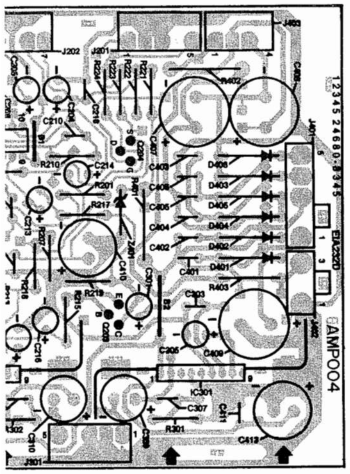
High Voltage Lead	Use BELDEN No. 9867 (30 KV)
Shielded Hook-up Wire	Use BELDEN No. 8401 or 8421 (Single-Conductor) 8208 (Two-Conductor)
General-use Unshielded Hook-up Wire	Use BELDEN No. 8529 (Solid) Available in 13 Colors 8522 (Stranded) Available in 13 Colors
300-Ohm Tuner Input Lead	Use BELDEN No. 8225
75-Ohm Tuner Input Lead	Use BELDEN No. 8241
300-Ohm Antenna Lead-In	Use BELDEN No. 8275 (Foam Core) or 8285 (Foam Jacketed)
Antenna Rotor Cable	Use BELDEN No. 8464 (Flat) or 8484 (Round) 4-Conductor 8485 (Round) 5-Conductor 8488 (Round) 8-Conductor

253 AUDIO INTERFACE MODULES
C. BOARD OVERLAYS
ROM THE COMPONENT SIDE)



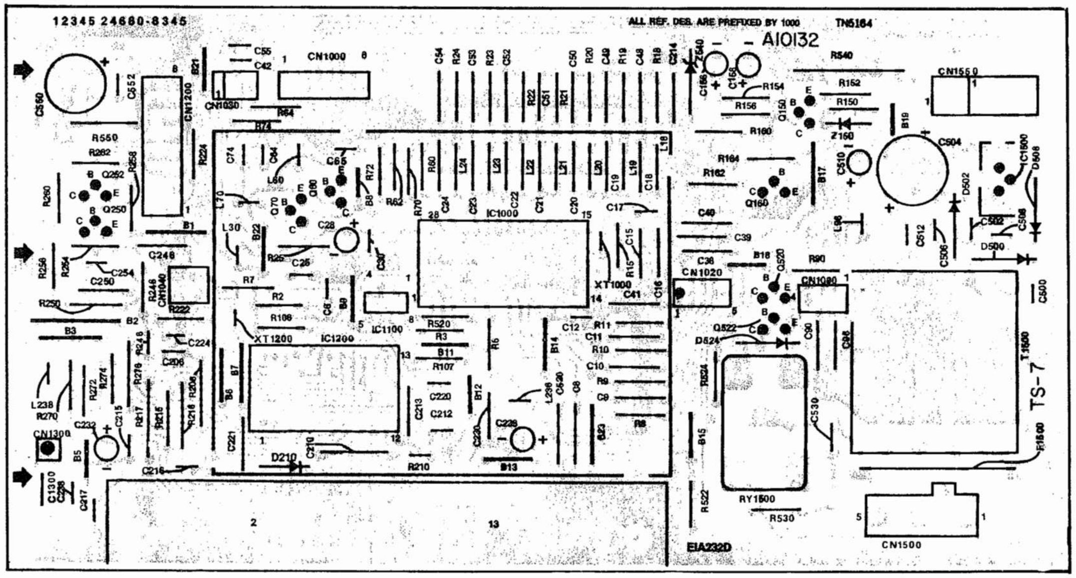
e components screened on this board may be used
dule. Refer to the Electrical Replacement Parts List
usage of that module.

EREO AMPLIFIER PANEL P.C. BOARD OVERLAY
ROM THE COMPONENT SIDE)



AUDIO INTERFACE/STEREO AMP BOARDS

A10132-A001 & -B002 TS-7 TUNER CONTROL MODULE
P.C. BOARD OVERLAY
(VIEWED FROM THE COMPONENT SIDE)



Courtesy of Manufacturer

TS-7 TUNER CONTROL BOARD

TS-7 P.C. Board Notes:
1. When referring to the electrical replacement parts list or the schematic diagram, add 1000 to the reference numbers of all discrete components screened on the P. C. Board.

PARTS LIST AND DESCRIPTION (Continued)

When ordering parts, state Model, Part Number, and Description

SEMICONDUCTORS (Select replacement transistor for best results)

ITEM No.	TYPE No.	MFGR. PART No.	REPLACEMENT DATA					
			NOTES	NTE PART No.	ECG PART No.	RCA PART No.	WORKMAN PART No.	ZENITH PART No.
Q153	435-1	6104350001		NTE123AP+	ECG123AP+	SK3854/123AP+	WEP736/123A+	121-Z9000A+
Q154	499-1	6104990001		NTE123A+	ECG123A+	SK3444/123A		121-Z9000A+
Q155	435-1	6104350001		NTE123AP+	ECG123AP+	SK3854/123AP+		121-Z9000A+
Q156	435-1	6104350001		NTE123AP+	ECG123AP+	SK3854/123AP+		121-Z9000A+
Q157	435-1	6104350001		NTE123AP+	ECG123AP+	SK3854/123AP+	WEP736/123A+	121-Z9000A+
Q158	434-1	6104340001		NTE159+	ECG159+	SK3466/159+	WEP62/159+	121-Z9003+
Q187	435-1	6104350001		NTE123AP+	ECG123AP+	SK3854/123AP+	WEP736/123A+	121-Z9000A+
Q188	434-1	6104340001		NTE159+	ECG159+	SK3466/159+	WEP62/159+	121-Z9003+
Q191	434-1	6104340001		NTE159+	ECG159+	SK3466/159+	WEP62/159+	121-Z9003+
Q401	433-2	6104330002		NTE2302	ECG2302	SK9422		
Q457	434-1	6104340001		NTE159+	ECG159+	SK3466/159+	WEP62/159+	121-Z9003+
Q463	437-1	6104370001		NTE287+	ECG287+	SK3433/287+	WEP68/287+	121-Z9045+
Q464	BUW11	6105170001		NTE2310	ECG2310			
Q470	435-2	6104350002		NTE123AP+	ECG123AP+	SK3854/123AP+	WEP736/123A+	121-Z9000A+
Q471	434-1	6104340001		NTE159+	ECG159+	SK3466/159+	WEP62/159+	121-Z9003+
Q492	434-1	6104340001		NTE159+	ECG159+	SK3466/159+	WEP62/159+	121-Z9003+
Q494	511-1	6105110001		NTE47+	ECG47+	SK9459/47+		
Z60		5301571100		NTE5019A	ECG5019A	SK10A/5019A	WEP1420/5019	103-Z9010
# Z402		5303020003						
Z424		5301571439		NTE5008A	ECG5008A	SK4A3/5008A	WEP1408/5008	103-279-08
Z479		5303010002						
Z481		5303020002		NTE5011A	ECG5011A	SK5A6/5011A	WEP1412/5011	103-Z9007
CRT BOARD								
Q226	250-3	6102500003		NTE171	ECG171	SK3201/171	WEP702/171	121-822
Q235	434-1	6104340001		NTE159+	ECG159+	SK3466/159+	WEP62/159+	121-Z9003+
Q240	250-3	6102500003		NTE171	ECG171	SK3201/171	WEP702/171	121-822
Q247	250-3	6102500003		NTE171	ECG171	SK3201/171	WEP702/171	121-822

\# For SAFETY use only equivalent replacement part.
\+ Rotate 180° to conform with original lead configuration.
(5) Comb Filter versions only.
(6) Late Production only.

PARTS LIST AND DESCRIPTION (Continued)

When ordering parts, state Model, Part Number, and Description

COILS (RF-IF)

ITEM No.	FUNCTION	MFGR. PART No.
L38	Choke (1.2uH)	3618131290
L39	Video IF	3617990005
L40	RF Choke	
L53	Peaking (2.2uH)	3618132290
L54	Video IF	3617990003
L55	AFT	3617990004
L58	RF Choke (.33uH)	3618130330
L61	Peaking (2.2uH)	3618132290
L62	RF Choke (56uH)	3618135609
L63	Peaking (2.2uH)	3618132290
L120	Sound Discriminator	3619680002
L121	RF Choke (22uH)	3618352209
L150	Peaking (10uH)	3618351009
L151	Chroma Phase Null	3619660001 (1)
L153	RF Choke (18uH)	3618351805 (1)
L154	RF Choke (18uH)	3618131805
L156	RF Choke (120uH)	3618351215 (1)
L157	Peaking (27uH)	3618132705
L170	Peaking (10uH)	3619551005
L177	RF Choke (22uH)	3618132205
L178	Peaking (68uH)	3618356805
	Peaking (10uH)	3618351005 (1)
L195	Peaking (39uH)	3618353905
L260	RF Choke (27uH)	3618000009
L261	RF Choke (.68uH)	3619550680
L400	Peaking (3.5uH)	3618000013 (2)
L401	RF Choke (42uH)	3618000014
L402	RF Choke (5.3uH)	3618000012
# L405	Horizontal Linearity	3620280001
# L410	RF Choke (5.6uH)	3618355699
L414	RF Choke (12uH)	3618351209
# L450	Line Filter	3619840001
L464	RF Choke (.5uH)	3618000010
L465	RF Choke (12uH)	3618000008
L466	RF Choke (5.3uH)	3618000012
L467	RF Choke (12uH)	3618000008
L468	RF Choke (.5uH)	3618000010
T110	Sound IF	3619650001

\# For SAFETY use only equivalent replacement part.
(1) Comb Filter Chassis only.
(2) Early Production only.

COILS & TRANSFORMERS

ITEM No.	FUNCTION	MFGR. PART No.	OTHER IDENTIFICATION	NOTES
# DY1	Yoke Horiz 1.40mH 100° Vert 18.4mH	3619670002	361967-2	
# T408	Horizontal Output	3619690001	361969-1	
# T453	Start-up	3004030001	38601	
T463	Horizontal Driver	3204030002	311233830280	
T488	Switch Mode	3619700001	361970-1	

\# For SAFETY use only equivalent replacement part.

SPEAKER

ITEM No.	TYPE	REPLACEMENT DATA MFGR. PART No.	QUAM PART No.	NOTES
SP102	3" x 5" PM 16 ohms	5835091001	35A05Z16	Used In Models RE4950AK01, RE4956AK01,RS4950AK01/AK02, RS4954HP01/HP02,RS4956PE01/PE02
	4" x 6" PM 16 ohms	5846120001	46A05Z16	Used In Models RE4804HP01, RE4806PE01,RE4940AK01/AK02 AK03/AK04,RE4946AK01, RE4948PE01,RF4473WA01/WA02/WA03/WA04,RF4800AK01/AK02, RF4802PE01/PE02,RF4806PE01/PE02,RF4940AK01,RF4948PE01, RG4473AK01,RG4812AC01/AK01, RG4816PC01/PE01,RS4966PE01/PE02/PE03/PE04
		5846121004		Used In Model RE4485WA01

FUSE DEVICES

ITEM NO.	DESCRIPTION	MFGR. PART NO. DEVICE	HOLDER	NOTES
# F450	5A @ 250V Fast-Acting	1815101500		

\# For SAFETY use only equivalent replacement part.

MISCELLANEOUS

\# For SAFETY use only equivalent replacement part.

ITEM No.	PART NAME	MFGR. PART No.	NOTES
DL152	Delay Line	3615790005	Early Production Comb Filter Chassis
	Delay Line	3615790006	Late Production Comb Filter Chassis
FB400	Ferrite Bead	3640460001	
L451	Degaussing Coil	3619570009	
LC199	Network	3619980001	
# P101	AC Power Cord	4614070001	
S300	Switch	1606720001	Vertical Centering
# S700	Switch		Power, Part of Volume Control R700
SF38	Filter	3618020001	SAW
# V701	CRT	A63AAM00XP or	A63AAM01XP
Y62	Trap	3616910003	3.58MHz, Late Production only
Y150	Filter	3617560001	4.5MHz
Y151	Trap	3616910002	3.58MHz, Non Comb Filter Versions only
Y194	Crystal	5604040005	3.58MHz Oscillator
	Antenna		UHF, RUSSELL Replacement BOW-4H
	Antenna		VHF, RUSSELL Replacement Assembly BEA-1H
	Glide, Plastic	1209760006	RUSSELL Replacement REC206, (10 used)
	Balun	3618050001	
	Magnet	3615730008	Convergence and Purity Assembly
	Wedge	6448670001	Yoke Positioning (3 used)

CABINETS & CABINET PARTS (When ordering specify model, chassis & color)

ITEM	PART No.
Model RS4966PE01/PE02/PE03/PE04	
Cabinet Back	6455250002
Base & Drawer Assembly	1446850009
Button-Cabinet Back (4 used)	1416240001
CRT Cup	1453100001
Door Assembly-Secondary Control	7050270001
Grille Cloth Assembly	7028820004
Housing-Tuner Cluster	7050280002
Latch-Door	1219940001
LED	5302650002
LED-SAP	5302970002
LED-Stereo	5302970003
Mask	1444980041
Overlay-Baffle (2 used)	1456160003
Overlay-Jack Panel	1519840004
Pushbutton-(1)	1455360014
Pushbutton-(2)	1455360015
Pushbutton-(3)	1455360016
Pushbutton-(4)	1455360017
Pushbutton-(5)	1455360018
Pushbutton-(6)	1455360019
Pushbutton-(7)	1455360020
Pushbutton-(8)	1455360021
Pushbutton-(9)	1455360022
Pushbutton-(0)	1455360023
Pushbutton-Channel Up	1455360024
Pushbutton-Channel Down	1455360025
Pushbutton-Volume	1455360027
Pushbutton-On/Off	1455360028
Speaker 4" x 6" (2 used)	5846120001
Model RE4485WA01	
Cabinet Back	1450230004
Door	1447420005
Cabinet Front	1449610013
Inlay-Top	1517900006
Inlay-Door	1518280009
Inlay-Secondary Controls	1518290014
Key Top (15 used)	1449630007
LED Display Module	5302650001
Overlay	1517830026
Speaker	5846121004

SECONDARY CONTROL MODULES REPLACEMENT PARTS LIST

Ref.	Description	Part No.
CAPACITORS		
C710	.22uF, 10%, 100V, Polyester (incorporated w/Tone Control only)	2508142249
RESISTORS (All are ¼W, 5%, Carbon Film unless otherwise specified)		
R701	1k	2302811025
R702	1500 ohm	2302811525
R731	680k	2302816845
R741	75k	2302817535
R742	4700 ohm (present on LDR/Auto Contrast sets only)	2302814725
R743	33k (LDR/Auto Contrast sets only)	2302813335
R743	22k (Non-LDR sets only)	2302812235
R744	56k (LDR/Auto Contrast sets only)	2302815635
R745	1 meg	2302811055
R751	5600 ohm	2302815625
R752	5600 ohm	2302815625
R761	5600 ohm	2302815625
R762	10k	2302811035
R763	2200 ohm	2302812225
CONTROL & SWITCHES (ASC103, ASC118, ASC134, ASC137, ASC156 & ASC171 CONTROL MODULES)		
R710	10k, 20%, Tone Control	2204600006
R720	10k, 20%, Sharpness Control	2204600007
R730	10k, 20%, Brightness Control	2204600006
R730	10k, 20%, (ASC156 & ASC171 only)	2204600004
R740	10k, 20%, Picture Control	2204600004
R750	10k, 20%, Tint Control	2204600004
R760	10k, 20%, Color Control	2204600004
S701	Momentary "Add" Switch (ASC103 & ASC137 only)	1607020001
S702	Momentary "Remove" Switch (ASC103 & ASC137 only)	1607020001
S703	Cable/Normal Switch	1606730001
CONTROLS & SWITCHES (ASC126, ASC127, ASC135, ASC136, ASC138, ASC151, ASC159 & ASC162 CONTROL MODULES)		
C701	.22uF., 20% (ASC162 only)	2508142249
R710	10k, 20%, Tone Control (ASC136 & ASC138 only)	2204590015
R720	10k, 20%, Sharpness Control	2204590016
R730	10k, 20%, Brightness	2204590001
R740	10k, 20%, Picture Control	2204590001
R750	10k, 20%, Tint Control	2204590001
R760	10k, 20%, Color Control	2204590001
S703	Cable/Normal Switch (ASC138 & ASC162 only)	1607100001
CONTROLS & SWITCHES (ASC129, ASC130, ASC131, ASC150 & ASC158 CONTROL MODULES)		
R720	10k, 20%, Sharpness Control	2204590016
R730	10k, 20%, Brightness Control	2204590001
R740	10k, 20%, Picture Control	2204590001
CONTROLS & SWITCHES (Continued)		
R750	10k, 20%, Tint Control	2204590001
R760	10k, 20%, Color Control	2204590001
VR770	50k, 20%, Balance Control	2204590011
VR780	50k, 20%, Bass Control	2204590011
VR790	50k, 20%, Treble Control	2204590011
S701	Momentary "Add" Switch (ASC130 & ASC131 only)	1606680002
S702	Momentary "Remove" Switch (ASC130 & ASC131 only)	1606680002
S703	Cable/Normal Switch	1607100001
S704	Favorite Station/All Channel Switch (ASC131 only)	1606690003
S705	Mono Stereo/SAP Switch	1607110001
S706	Internal/External Audio Switch	1607100001
MISCELLANEOUS		
P3	9 Pin Connector w/Contacts	1817140009
	Negative Polarizing Key f/P3, Pin 6	1813510001
P5	3 Pin Connector f/Tone Control (certain models only)	1812100003
	Contacts f/P5 (2 used)	1810760002
	Terminal Crimp f/P5 (2 used)	1810110001
J102	2 Pin Female Connector (used with models incorporating the 7015910006 LDR Asm.)	1808330002
	Male Contacts f/the above connector (2 used)	1807260002
J102	3 Pin Connector w/Contacts (used with Tuner Control/ Cluster Asm. incorporating the 2303160002 LDR)	1815120003
CN1050	8 Pin Connector w/Contacts (used on control modules that features S703 & S704)	1813750008
	Negative Polarizing Key f/CN1050	1813760001
CN1052	4 Pin Connector w/Contacts (used on control modules that feature S703 only)	1813750004
PD4	1 Pin Connector (used with S705 and models featuring the DIN Port Asm. or internal Stereo Decoder)	1812100001
	Contact f/PD4	1810110001
J202	7 Pin Connector w/Contacts (incorporated with control modules featuring Bass, Treble & Balance Controls)	1817140007
	Negative Polarizing Key f/J202	1813510001
J901	4 Pin Connector w/Contacts (used with S706 and models featuring Internal/External Audio Switching)	1817140004
	Negative Polarizing Key f/J901	1813510001
J101	3 Pin Female Molex Housing	1807340001
	Male Contact f/J101 (2 used)	1807260002
P202	7 Pin Connector w/Contacts	1816500007
	Negative Polarizing Key	1816510001
CN1030	5 Pin Connector w/Contacts	1816520005
LDR	3 Pin Connector w/Contacts (to LDR)	1815120003

A10221-A001, A10222-A001 & A10223-A001 TS-7 FIVE FUNCTION SCAN/CHANNEL DISPLAY MODULE REPLACEMENT PARTS LIST

Ref.	Description	Part No.
S1	Pushbutton Switch f/Volume Up	1606880004
S2	Pushbutton Switch f/Volume Down	1606880004
S3	Pushbutton Switch f/Channel Up	1606880004
S4	Pushbutton Switch f/Channel Down	1606880004
S5	Pushbutton Switch f/Power (2 used on the A10221 & A10222 Modules	1606880004
D451	Channel Display LED	5303030001
C451	1000pF., 10%, 50V, Ceramic Capacitor	2508311029
C452	1000pF., 10%, 50V, Ceramic Capacitor	2508311029
CN1000	8 Pin Connector	1811931008
	Contacts f/CN1000 (8 used)	1811330001
CN1030	3 Pin Connector	1811931003
	Contacts f/CN1030 (3 used)	1811330001
	3 Pin socket f/LDR	1811210001
	Plastic Spacer f/LDR	1456290001
	Socket f/Channel Display LED	1816200018
P102	2 Pin Male Contact Housing	1808340002
	Female Contacts f/P102 (2 used)	1807250002

ATS043 TUNING SYSTEM ASSEMBLY

Ref.	Description	Part No.
CONTROL ASSEMBLIES		
A10202	TS9 Tuning Control Module	A10202-A001
	UHF/VHF Tuning Control Module	3402910001
MISCELLANEOUS		
	Frame	1457260002
	Phono Jack f/S.A.P.	1816250001
	Clip	7344610001
CN1660	2 Pin Male Connector	1812101002
	Terminal Crimp f/CN1660 (2 used)	1810110001
	Phono Plug	1813730001
CN1600	4 Pin Connector w/Contacts (2 used)	1817150004
CN1650	5 Pin Molex Housing	1817140005
	Negative Polarizing key f/CN1650	1813510001
	6 Pin Connector w/Contacts	1817140006
CN1040	2 Pin Male Molex Housing	1811420001
	2 Pin Housing Connector	1812100002
	Terminal Crimp f/CN1040 (2 used)	1810110001
	Terminal Crimp (Female - 2 used)	1809300001
	RF-Tuner Input Cable Assy.	4616590002
P8	5 Pin Molex Housing	1812100005
	Positive Polarizing Key f/P8	1810760002
	Terminal Crimp f/P8 (2 used)	1810110001

Courtesy of Manufacturer

7050610002 DIN PORT ASSEMBLY REPLACEMENT PARTS LIST

Ref	Description	Part No.
CONTROL ASSEMBLY		
A10198	DIN Port Module	A10198-A001
	- Waffer Connector (PD1)	1813810010
	- Waffer Connector (PD2)	1813810011
	- Waffer Connector (PD3)	1813810012
	- 8 Pin DIN Jack	1816240001
MISCELLANEOUS		
	Phono Jack (Stereo/S.A.P.)	1816250001
	P8, 5 Pin Connector	1812100005
	Positive Polarizing Key f/P8	1810760002
	Contacts f/P8 (2 used)	1810110001

340262 TUNER MODULE REPLACEMENT PARTS LIST (125 CH. TUNER USED WITH MCU TUNING SYSTEMS)

(Schem. - Pgs. 55, 56)

Ref.	Description	Part No.
SEMICONDUCTORS ONLY		
6001	Diode	2805015302
6002	Diode	2805015301
6003	Diode, Varactor	2805035301
6004	Diode	2805015301
6005	Diode, Varactor	2805055301
6006	Diode, Varactor	2805055301
6007	N Channel MOSFET	2805066101
6008	Diode, Varactor	2805035301
6009	N Channel MOSFET	2805076101
6010	Diode	2805015301
6011	Diode	2805015301
6012	Diode	2805015301
6013	Diode	2805015302
6014	Diode, Varactor	2805035301
6015	Diode, Varactor	2805055301
6016	Diode	2805015302
6018	Diode, Varactor	2805055301
6019	NPN Transistor	2805336101
6020	NPN Transistor	2805326101
6021	Diode	2805015302
6022	Diode	2805045301
6024	Diode, Varactor	2805055301
6025	PNP Transistor	2805346101
6026	Diode, Varactor	2805035301
6027	NPN Transistor	2805316101
6028	Diode	2805015301
6029	Diode	2805015301
6030	Diode, Varactor	2805055301
6031	Diode, Varactor	2805055301
7001	Prescaler IC	2805086121

340263 TUNER MODULE REPLACEMENT PARTS LIST (83 CH. TUNER USED WITH TS-6 & TS-7 TUNING SYSTEMS)

Ref.	Description	Part No.
SEMICONDUCTORS ONLY		
D1	Diode, Type BAS15	-----
D2	Diode, Type BA482	2805015301
D3	Diode, Varactor, Type BB809	2805025301
D4	Diode, Varactor, Type BB809	2805025301
D5	Dioda, Varactor, Type BB809	2805025301
D6	Diode, Varactor, Type BB809	2805025301
D7	Diode, Type BA482	2805015301
D8	Diode, Type BA483	2805015302
D9	Diode, Type 1N4148	-----
D10	Diode, Varactor, Type OF643	-----
D11	Diode, Varactor, Type OF643	-----
D12	Diode, Varactor, Type OF643	-----
D13	Diode, Varactor, Type OF643	-----
D14	Diode, Type 1SS99	2805045301
D15	Diode, Type BA484	-----
D17	Diode, Type BA482	2805015301
Q1	N Channel MOSFET, Type BF482	-----
Q2	PNP Transistor, Type BF324	-----
Q3	PNP Transistor, Type BF324	-----
Q4	N Channel MOSFET, Type BF980	2805076101
Q5	PNP Transistor, Type BF970	-----
Q6	PNP Transistor, Type BF926	-----
IC7	Prescaler IC, Type SP4632	-----

340291 TUNER MODULE REPLACEMENT PARTS LIST (164 CH. TUNER USED WITH TS-9 TUNING SYSTEM)

Ref.	Description	Part No.
SEMICONDUCTORS ONLY		
D1	Diode	5303131002
D2	Diode	5303131001
D3	Diode, Varactor	5302301003
D4	Diode	5303131001
D5	Dioda	5301881005
D6	Diode, Varactor	5302301003
D8	Diode, Varactor	5302301003
D10	Diode	5303131001
D11	Diode	5303131001
D12	Diode	5303131001
D13	Diode	5303131002
D14	Diode, Varactor	5302301003
D15	Diode, Varactor	5302301003
D16	Diode	5303131002
D18	Diode, Varactor	5302301003
D21	Diode	5303131002
D22	Diode, Schottky Bar	5301941003
D24	Diode, Varactor	5302301003
D26	Diode, Varactor	5302301003
D28	Diode	5303131001
D29	Diode	5303131001
D30	Diode	5301881005
D31	Diode, Varactor	5301951005
D32	Diode	5303131001
Q7	Transistor MOSFET	6105040001
Q9	Transistor, Type BF980	6105190001
Q15	Transistor	6102460001
Q18	Transistor	6102460001
Q19	Transistor	6105020001
Q20	Transistor	6105030001
Q24	Transistor	6102460001
Q25	Transistor	6102460001
Q26	Transistor	6102460001
Q27	NPN Transistor	6104190003
IC1	IC, Type SP4552	6124840001

Courtesy of Manufacturer

CABINETS & CABINET PARTS (When ordering specify model, chassis & color)

ITEM	PART No.
Model RE4804HP01	
Cabinet Back	6454850002
Ball & Backplate	1218870001
Bezel-Tuner Cluster	1455440004
Bezel-Speaker & Tuner Cluster	1455740003
Cover-Antenna/Audio Output	1455220008
Crystal-IR	1520360001
Crystal-LED	1455260004
CRT Cup	1453100001
Door Secondary Control	1455450001
Front Base & Drawer	1446520007
Grille Cloth	4010970002
Inlay-Secondary Controls	1520190001
Knob-Decorative (2 used)	1218850001
LDR	2303160002
LED	5303030001
Mask	1451860032
Overlay-R.H.	1446830003
Pushbutton-Volume Up	1455670001
Pushbutton-Volume Down	1455670002
Pushbutton-Channel Up	1455670003
Pushbutton-Channel Down	1455670004
Pushbutton-On/Off	1455670005
Speaker 4" x 6"	5846120001
Model RE4806PE01	
Cabinet Back	6454850002
Ball & Backplate	1218880001
Bezel-Tuner Cluster	1455440004
Bezel-Speaker & Tuner Cluster	1455740003
Cover-Antenna/Audio Output	1455220008
Crystal-IR	1520360001
Crystal-LED	1455260004
CRT Cup	1453100001
Door-Secondary Control	1455450001
Front Base & Drawer	1446540007
Grille Cloth	4010970004
Inlay-Secondary Controls	1520190001
LDR	2303160002
LED	5303030001
Mask	1451860032
Overlay-Speaker	1446830003
Pushbutton-Volume Up	1455670001
Pushbutton-Volume Down	1455670002
Pushbutton-Channel Up	1455670003
Pushbutton-Channel Down	1455670004
Pushbutton-On/Off	1455670005
Speaker 4" x 6 "	5846120001
Models RE4940AK01/AK02/AK03/AK04	
Cabinet Back	6455000002
Bezel Assembly-Tuner Cluster	7045190018
Bezel-Speaker & Tuner Cluster	14466200013
CRT Cup	1453100001
Door & Inlay Assembly-Secondary Controls	7050620001
Drawer-Front	1446550002
Grille Cloth	4010970007
LDR	2303160002
LED	5302651002
Lens-IR	1520260001
Mask	1444980037
Overlay-R.H. Bottom	1446660001
Pushbutton-Channel/Volume (4 used)	1447170005

ITEM	PART No.
Pushbutton-On/Off	1447170006
Speaker 4" x 6"	5846121001
Sub-Baffle-Speaker	6449660001
Models RE4946AK01,RE4948PE01	
Cabinet Back	6454850001
Bezel Assembly	7045190018
CRT Cup	1453100001
Door & Inlay Assembly	7050620001
Grille Cloth (RE4946 only)	4010970005
Grille Cloth (RE4948 only)	4010970004
Knob-Decorative (RE4946 2 used)	1218850001
Knob-Decorative (RE4948 2 used)	1217300003
Lens-IR	1520260001
LED Display Assembly	5302651002
Mask	1444980014
Pull-Decorative (RE4946)	1218820001
Pull-Deocrative (RE4948)	1218800001
Speaker 4" x 6"	5846120001
Models RE4950AK01,RE4956AK01	
Cabinet Back	6455890001
Caster Set (RE4956)	7017090002
CRT Cup	1453100001
Decorative Knob (RE4956 2 used)	1218810002
Deocrative Pull (RE4956)	1218930001
Door-Secondary Control (RE4950)	1455390001
Door-Secondary Control (RE4956)	1455390002
Drawer (RE4950)	1446550002
Inlay-Secondary Control	1520020003
LED Display Module	5302651002
LDR Assembly	7017260008
Lens-LDR	1455310001
Mask	1444980024
Overlay (2 used)	1519840004
Overlay-Top R.H. (RE4950)	1454490005
Overlay-Top L.H. (RE4950)	1454490009
Overlay-Top (RE4956)	1454490008
Pushbutton-Volume Up (RE4950)	1455370001
Pushbutton-Volume Up (RE4956)	1455370006
Pushbutton-Volume Down (RE4950)	1455370002
Pushbutton-Volume Down (RE4956)	1455370007
Pushbutton-Channel Up (RE4950)	1455370003
Pushbutton-Channel Up (RE4956)	1455370008
Pushbutton-Channel Down (RE4950)	1455370004
Pushbutton-Channel Down (RE4956)	1455370009
Pushbutton-Power (RE4950)	1455370005
Pushbutton-Power (RE4956)	1455370010
Speaker 3" x 5"	5835091001

Cabinet & Cabinet Parts List Continued on Pages 35,36.

CABINETS & CABINET PARTS (When ordering specify model, chassis & color)

ITEM	PART No.
Models RF4473WA01/WA02/WA03/WA04	
Cabinet Back	1450230006
Bezel-Control	1455080007
Door-Back	1448720001
Door-Secondary Control	1455070003
Cabinet Front	1449610016
Inlay-Secondary Control	1520050002
LDR	2303160002
LED Dual Digit Display	5303030001
Lens-IR	1520260001
Pushbutton-Channel Select	1455110001
Pushbutton-On/Off	1456150001
Pushbutton-Volume	1455110002
Speaker 4" x 6"	5846120001
Models RF4800AK01/AK02	
Cabinet Back	6456570001
Base Assembly	6985680001
Bezel-Control	1455440005
Cover-Rear	1455220010
Crystal-Control	1455260004
Crystal-IR	1520360001
CRT Cup	1453100001
Door-Secondary Control	1455450001
Grille Cloth Assembly	4010970012
Inlay-Secondary Control	1520190001
LDR	2303160002
LED-Dual Digit Display	5303030001
Mask	1451860034
Overlay-R.H. Bottom	1446660006
Pushbutton-Volume Up	1455670006
Pushbutton-Volume Down	1455670007
Pushbutton-Channel Up	1455670008
Pushbutton-Channel Down	1455670009
Pushbutton-On/Off	1455670010
Speaker 4" x 6"	5846120001
Models RF4806PE01/PE02	
Cabinet Back	6456640002
Bezel-Control	1455440005
Cover-Rear	1455220010
Crystal-Control	1455260004
Crystal-IR	1520360001
CRT Cup	1453100001

ITEM	PART No.
Door-Secondary Cotnrol	1455450001
Front Base & Drawer	1456540006
Grille Cloth Assembly	4010970014
Inlay-Secondary Control	1520190001
LDR	2303160002
LED-Dual Digit Display	5303030001
Mask	1451860034
Pull-Decorative	1220310001
Pushbutton-Volume Up	1455670006
Pushbutton-Volume Down	1455670007
Pushbutton-Channel Up	1455670008
Pushbutton-Channel Down	1455670009
Pushbutton-On/Off	1455670010
Speaker 4" x 6"	5846120001
Model RF4940AK01	
Cabinet Back	6456420001
Base Assembly-Swivel	6988820001
Bezel-Control	1455440005
Cover-Rear	1455220008
Crystal-Control	1455260004
Crystal-IR	1520360001
CRT Cup	1453100001
Door-Secondary Control	1455450001
Front Drawer	1458270001
Grille Cloth	4011080009
LDR	2303160002
LED-Dual Digit Display	5302480001
Mask	1444980041
Overlay-R.H. Speaker Baffle	1446880003
Pushbutton-Channel Down	1455670012
Pushbutton-Channel Up	1455670011
Pushbutton-Volume Down	1455670014
Pushbutton-Volume Up	1455670013
Pushbutton-On/Off	1455670015
Speaker 4" x 6"	5846120001
Model RF4948PE01	
Cabinet Back	6456710001
Base Support Assembly	6985570001
Bezel-Control	1455440005
Cover-Rear	1455220008
Crystal-Control	1455260004
Crystal-IR	1520360001
CRT Cup	1453100001
Door-Secondary Control	1455450001
Grille Cloth	4010970004
Knob-Decorative (2 used)	1217300003
LDR	2303160002
LED-Dual Digit Display	5302480001
Mask	1444980041
Overlay-R.H. Speaker Baffle	1446880003
Pull-Decorative	1218800001
Pushbutton-Channel Down	1455670012
Pushbutton-Channel Up	1455670011
Pushbutton-Volume Down	1455670014
Pushbutton-Volume Up	1455670013
Pushbutton-On/Off	1455670015
Speaker 4" x 6"	5846120001
Model RG4473AK01	
Cabinet Back	1450230006
Bezel-Control	1455080009

ATS006 TUNING SYSTEM ASSEMBLY

Ref.	Description	Part. No.
CONTROL ASSEMBLIES		
MCU070	MCU Tuning Control Asm. (not a replaceable item,see individual replacement parts list)	-----
	-MCU Control Panel * (E.P.)	A10164-A001
	-MCU Control Panel * (L.P.)	A10234-A001
	UHF/VHF Tuner Module (125 Ch.)	3402620003
MISCELLANEOUS		
	Transformer Assembly	
S	-Power Transformer	3003900001
P402	-2 Pin Male Connector	1816140002
	-Contacts f/P402 (2 used)	2006060001
P403	-4 Pin Male Connector	1816140005
	-Contacts f/P403 (4 used)	2006060001
J404	-3 Pin Female Connector	1807340001
	-Male Contacts f/J404 (2 used)	1807260003
	Cable Asm. (Tuning Sys. to Ch. Display)	-----
CN1030	9 Pin Connector w/Contacts	1813750009
CN1032	7 Pin Connector w/Contacts	1813750009
	F type to Phono Plug Connector (f/VHF Input on Tuner Module)	1815340002
	IF Cable Assembly	4616110004

ATS008 TUNING SYSTEM ASSEMBLY

Ref.	Description	Part No.
CONTROL ASSEMBLIES		
MCU069	MCU Tuning Control Asm. (not a replaceable item, see individual replacement parts list)	-----
	-MCU Control Panel * (E.P.)	A10164-A001
	-MCU Control Panel * (L.P.)	A10234-A001
	UHF/VHF Tuner Module (125 Ch.)	3402620003
MISCELLANEOUS		
	Transformer Assembly	
S	-Power Transformer	3003900001
P402	-2 Pin Male Connector	1816140002
	-Contacts f/P402 (2 used)	2006060001
P403	-4 Pin Male Connector	1816140005
	-Contacts f/P403 (4 used)	2006060001
J404	-3 Pin Female Connector	1807340001
	-Male Contacts f/J404 (2 used)	1807260003
	Cable Asm. (Tuning Sys. to Ch. Display)	-----
CN1030	9 Pin Connector w/Contacts	1813750009
CN1032	7 Pin Connector w/Contacts	1813750009
	F type to Phono Plug Connector (f/VHF Input on Tuner Module)	1815340002
	IF Cable Assembly	4616110004
	Phono - Connector f/S.A.P.	1814390004

ATS015 TUNING SYSTEM ASSEMBLY

Ref.	Description	Part No.
CONTROL ASSEMBLIES		
A10132	TS-7 Tuning Control Module	A10132-8002
	UHF/VHF Tuner Module (82 Ch.)	3402630001
MISCELLANEOUS		
	S.A.P. Phono Jack	1816250001
P8	5 Pin Connector Housing	1812100005
	Contacts f/P8 (2 used)	1810110001
	Positive Polarizing Key f/P8	1810760002
	IF Cable Assembly	4616110002
PL510	2 Pin Male Connector Housing	1811420001
	Female Contacts f/PL510 (2 used)	1809300001
CN1040	2 Pin Connector Housing	1812100002
	Contacts f/CN1040 (2 used)	1810110001

ATS020 TUNING SYSTEM ASSEMBLY

Ref.	Description	Part No.
CONTROL ASSEMBLIES		
A10101	TS-6 Tuning Control Module	A10101-D004
	UHF/VHF Tuner Module (82 Ch.)	3402630001

ATS022 TUNING SYSTEM ASSEMBLY

Ref.	Description	Part No.
CONTROL ASSEMBLIES		
A10132	TS-7 Tuning Control Module	A10132-8002
	UHF/VHF Tuning Module (82 Ch.)	3402630001

ATS025 TUNING SYSTEM ASSEMBLY

Ref.	Description	Part No.
CONTROL ASSEMBLIES		
MCU069	MCU Tuning Control Asm. (not a replaceable item, see individual replacement parts list)	-----
	-MCU Control Panel * (E.P.)	A10164-A001
	-MCU Control Panel * (L.P.)	A10234-A001
	UHF/VHF Tuner Module (125 Ch.)	3402620003
MISCELLANEOUS		
	Slide Switch	1606700005
	Phono Jack f/S.A.P.	1816250001
	Connector	1815340002
P8	5 Pin Molex Housing	1812100005
	Positive Polarizing Key f/P8	1810760002
	Terminal Crimp f/P8 (2 used)	1810110001
CN1030	7 Pin Connector w/Contacts	1813750007
	9 Pin Molex w/Contacts	1813750009
	Negative Polarizing Key (2 used)	1813760001
	IF Cable Assembly	4616110004

ASW003-A001 FIVE FUNCTION SCAN/PROGRAM SWITCH MODULE REPLACEMENT PARTS LIST

Ref.	Description	Part No.
	Pushbbutton Switches f/Channel Up-Down, Volume Up-Down & Power (5 used)	1606880001
	Add Switch	1606880002
	Delete Switch	1606880002
	Cable/Normal Switch	1606990001
	Favorite Station/All Channel Sw.	1606690001
CN1100	9 Pin Connector w/contacts	1816100709
CN1050	8 Pin Connector w/contacts	1816100408
	Square Wire Pins (12 used)	1811580001

Courtesy of Manufacturer

ASW012-A001 PROGRAM SWITCH MODULE REPLACEMENT PARTS LIST

Ref.	Description	Part No.
S1	Delete Switch	1606680002
S2	Add Switch	1606880002
S3	Favorite Station/All Channel Sw.	1606690001
S4	Cable/Normal Switch	1606690001
CN1050	8 Pin Connector	1813750008
	Negative Polarizing Key f/CN1050	1813760001
	Square Wire Pins (6 used)	1811580006

ASW011-A001, ASW013-A001 & ASW014-A001 FIVE FUNCTION SCAN MODULE REPLACEMENT PARTS LIST

Ref.	Description	Part No.
	Pushbutton Switches f/Channel Up-Down, Volume Up-Down & Power (5 used)	1606880004
CN1100	9 Pin Connector w/contacts	1813750009
	Negative Polarizing Key	1813760001
	Square Wire Pins (5 used)	1811580006

ASW021, ASW023 & ASW024 SWITCH ASSEMBLY REPLACEMENT PARTS LIST

Ref.	Description	Part No.
S701	Momentary Add Switch	1606680002
S702	Momentary Delete Switch	1606680002
S703	Cable/Normal Switch	1607100002
S704	Favorite Station Scan Switch (ASW021 & ASW023 only)	1606690003
S705	Mono/S.A.P Stero Switch	1607110003
S706	External Audio/Video Sw.	1607100002
	Square Wire Pins (12 used) ASW021 Only	1811580006
	Square Wire Pins (14 used) ASW023 Only	1811580006
	Cap f/Add & Delete Sw. (2 used)	1452980001
R772	Resistor, 1200 ohm, 5%, ¼W, Carbon Film (ASW023 only)	2302811225
P901	4 Pin Molex w/contacts	1817140004
	Negative Polariizing Key f/P901	1813610001
P101	3 Pin Male Molex Housing	1807350002
	Female Contacts f/P101 (3 used)	1807250002
CN1050	8 Pin Connector w/contacts	1813750008
	Negative Polarizing Key f/CN1050	1813760001
J102	2 Pin Female Connector (ASW023 Only)	1815110002
	Male Contacts f/J102 (2 used)	1809290001

ASW022 FIVE BUTTON SWITCH ASSEMBLY REPLACEMENT PARTS LIST

Ref.	Description	Part No.
	Pushbutton switches f/Channel Up-Down, Volume Up-Down & Power (5 used)	1606880004
	Square Wire Pins (5 used)	1811580006
	Spacer f/Pushbutton Switches (5 used)	6454830001
CN1100	9 Pin Connector w/contacts	1813750009
	Negative Polarizing Key	1813760001

ASW025 FIVE BUTTON ASSEMBLY REPLACEMENT PARTS LIST

Ref.	Description	Part No.
	Square Wire Pins (6 used)	1811580006
	Pushbutton Switches f/Channel Up-Down, Volume Up-Down & Power (5 used)	1606880004

ASW028 ONE BUTTON SWITCH BOARD ASSEMBLY REPLACEMENT PARTS LIST

Ref.	Description	Part No.
	Square Wire Pins (2 used)	1811580006
	Slide Switch	1606690001
CN1030	5 Pin Connector w/contacts	1816520005

ASW032 TWELVE BUTTON SWITCH MODULE REPLACEMENT PARTS LIST

Ref	Description	Part No.
S0 thru S11	Pushbutton Switches (12 used)	1606880001
J102	2 Pin Female Connector	1815110002
	Male Contacts f/J102 (2 used)	1809290001

A10144-A001 & -A002 REMOTE RECIEVER MODULE REPLACEMENT PARTS LIST

Ref.	Description	Part No.
TRANSFORMERS		
T1	Inductor (-A001 only)	3619870003
T2	Inductor	3619870001
CAPACITORS (All are 10%, 50V, Ceramic Disc unless specified otherwise.)		
C1	390pF., (-A001 only)	2508313919
C2	22uF., 25V, Electrolytic	2701592125
C3	470pF., 5%	2508314719
C4	.047uF., +80-20%, (-A001 only)	2508334738
C5	.047uF., +80-20%	2508334738
C6	.047uF., +80-20%, (-A001 only)	2508334738
C7	22000pF., +80-20%	2508332238
C8	4700pF.	2508314729
C9	.01uF.	2508311039
C10	4700pF.	2508314729
C11	22uF., 25V, Electrolytic	2701592125
C12	6800pF., 2%, Polyester	2508786822
C13	.01uF., (-A002 only)	2508311039
C14	.01uF., (-A002 only)	2508311039
RESISTORS (All are 5%, ¼W, Carbon Film unless specified otherwise.)		
R1	100k, (-A001 only)	2302851045
R2&3	1 Meg. (2 used, -A001 only)	2302851055
R4	4700 ohm, Metal Film, (-A001 only)	2302854725
R5	100 ohm	2302851015
R6	47 ohm	2302854705
R7	10k	2302851035
R8	100k	2302851045
R9	10k	2302851035
R10	270k	2302852745
R11	10k	2302851035
R12	180k	2302851845
R13 & 14	33k, (2 used)	2302853335
R15 & 16	18k, (2 used, -A002 only)	2302851835
SEMICONDUCTORS		
D1	Photo Diode	5302350001
D2	Silicon Diode	5301810001
Q1	NPN Transistor (-A001 only)	6100940004
Q2	NPN Transistor	6102320002
Q3	NPN Transistor	6102320002
Q4	NPN Transistor	6102320002
IC1	Remote Reciever IC	6124500002
MISCELLANEOUS		
	4 Pin Waffer Connector	1815310104
	Preamp Support	1452330001
	Grille	7326110002
	Cap-Front	7343920001
	Cap-Rear	7344150002

Note: The A10157 Remote Reciever contains surface mounted "chip" components. Special equipment may be required to sevice this module.

Courtesy of Manufacturer

TUNING SYSTEM, FIVE FUNCTIONS SCAN/PROGRAM SWITCH PARTS LIST

SWITCH ASSEMBLY, REMOTE RECEIVER PARTS LIST

ITEM	PART No.
Door-Back	1448720001
Door-Secondary Control	1455070002
Cabinet Front	1449610019
Housing Control	1455200003
LED Dual Digit Display	5303030001
Overlay-Secondary Control	1520050004
Pushbutton-Channel Select	1455110001
Pushbutton-On/Off/Volume	1456150001
Pushbutton-Volume	1455110002
Speaker 4" x 6"	5846120001
Models RG4812AC01/AK01, RG4816PC01/PE01	
Cabinet Back (RG4812AC01)	6457980001
Cabinet Back (RG4812AK01)	6457700001
Cabinet Back (RG4816PC01)	6456710001
Cabinet Back (RG4816PE01)	6457710001
Bezel-Control	1455440007
Rear Cover (RG4812AC01,RG4816PC01)	1455220013
Crystal-Control	1455260008
Crystal-IR	1520360001
CRT Cup (RG4812AC01,RG4816PC01)	1453100001
CRT Cup (RG4812AK01,RG4816PE01)	1458110001
Door-Secondary Control	1455450002
Front Base & Drawer (RG4812)	1452020002
Front Base & Drawer (RG4816)	1456540006
Grille Cloth (RG4812)	4010970020
Grille Cloth (RG4816)	4010970015
Housing Control (RG4812)	1455740015
Housing Control (RG4816)	1455740013
LDR	2303160002
LED-Channel Display	5302480002
Mask	1444980034
Overlay-Speaker (RG4812)	1446660001
Overlay-Speaker (RG4816)	1446680004
Pull-Decorative (RG4816)	1220310001
Pushbutton-Channel Down	1455670012
Pushbutton-Channel Up	1455670011
Pushbutton-Volume Down	1455670014
Pushbutton-Volume Up	1455670013
Pushbutton-Power	1455670015
Speaker 4" x 6"	5846120001
Model RS4950AK01/AK02	
Cabinet Back	6455700002
Bezel Assembly	7049960002
Button (4 used)	1416240001
Cap-Pushbutton (2 used)	1452980001
CRT Cup	1453100001
Door-Secondary Control	1455390001
Drawer	1446550002
Inlay-Secondary Control	1520020003
Lens-IR	1520260001
Lens-LDR	1455310001
LDR Assembly	7017260008
LED-SAP	5302970002
LED-Stereo	5302970003
LED-Display	5302651002
Mask	1444980035
Overlay-Jack Panel	1519840004
Overlay-Top R.H.	1454490005
Overlay-Top L.H.	1454490009

ITEM	PART No.
Overlay Assembly-Speaker L.H	7050260004
Overlay Assembly-Speaker R.H.	7050260005
Pushbutton-Volume Up	1455370001
Pushbutton-Volume Down	1455370002
Pushbutton-Channel Up	1455370003
Pushbutton-Channel Down	1455370004
Pushbutton-Power	1455370005
Speaker 3" x 5"	5835091001
Models RS4954HP01,HP02	
Cabinet Back	6455710002
Ball & Backplate	1218870001
Bezel Assembly	7049960002
Button (4 used)	1416240001
Cap-Pushbutton (2 used)	1452980001
CRT Cup	1453100001
Door-Secondary Control	1455390001
Drawer	1446550002
Front Base & Drawer	1456540008
Inlay-Secondary Control	1520020003
Lens-IR	1520260001
Lens-LDR	1455310001
LDR Assembly	7017260008
LED-SAP	5302970002
LED-Stereo	5302970003
LED-Display	5302651002
Mask	1444980034
Pushbutton-Volume Up	1455370006
Pushbutton-Volume Down	1455370007
Pushbutton-Channel Up	1455370008
Pushbutton-Channel Down	1455370009
Pushbutton-Power	1455370010
Speaker 3" x 5"	5835091001
Model RS4956PE01/PE02	
Cabinet Back	6455710002
Bezel Assembly	7049960004
Button (4 used)	1416240001
Cap-Pushbutton (2 used)	1452980001
CRT Cup	1453100001
Door-Secondary Control	1455390001
Drawer	1446550002
Front Base & Drawer	1446570007
Inlay-Secondary Control	1520020003
Knob-Deocrative (2 used)	1218810002
Lens-IR	1520260001
Lens-LDR	1455310001
LED-SAP	5302970002
LED-Stereo	5302970003
Mask	1444980034
Overlay-Jack Panel	1519840004
Overlay-Top R.H.	1454490008
Overlay Assembly-Speaker L.H.	7050260010
Overlay Assembly Speaker R.H.	7050260011
Pull Assembly	1218930001
Pushbutton-Volume Up	1455370001
Pushbutton-Volume Down	1455370002
Pushbutton-Channel Up	1455370003
Pushbutton-Channel Down	1455370004
Pushbutton-Power	1455370005
Speaker 3" x 5"	5835091001

T174AB-MA01, -SA01 & -PA01
17 BUTTON REMOTE TRANSMITTER
REPLACEMENT PARTS LIST

Ref.	Description	Part No.
CAPACITORS		
C1	.047uF., 20%, 250V, Polyester	2506554730
C2	180pF., Polypropylene	2507191812
C3	220uF., 16V, Electrolytic	2702032216
C4	50pF., Trimmer	2602200003
RESISTORS (All are 5% Carbon Film unless otherwise specified.)		
R1	15k	2302811535
R2	10k	2302811035
R3	12k	2302811235
R4	2700 ohm	2302142725
R5	3.3k	2302813325
R6	33k	2302813335
R7	300k	2302813045
R8	3 ohm	2302813095
CONTROLS & SWITCHES		
	Pressure Pad Keyboard	7028641001
SEMICONDUCTORS		
D2	Silicon Diode	5301811001
D3	Infrared Emitting	5302740001

Ref.	Description	Part No.
SEMICONDUCTORS (Continued)		
D4	Infrared Emitting	5302740001
D5	Infrared Emitting	5302740001
D6	Silicon Diode	5301811001
D7	Silicon Diode	5301811001
Q1	NPN Silicon Transistor	6102240001
Q2	NPN Silicon Transistor	6102240001
Q3	PNP Silicon Transistor	6101580003
IC1	Remote Transmitter IC	6122470002
MISCELLANEOUS		
	Pushbutton Array f/Magnavox	1452400009
	Pushbutton Array f/Sylvania	1452400007
	Pushbutton Array f/Philco	1452400008
	Case Top	1455850004
	Inlay f/Case Top (Magnavox)	1520300003
	Inlay f/Case Top (Sylvania)	1520300001
	Inlay f/Case Top (Philco)	1520300002
	Case Bottom	1447670001
	Battery Door	1447630004
	Window f/Infrared Transmission	1447640001
	Battery Connector & Lead Asm.	1814200002

Sylvania: T174AB-SA01
Magnavox: T174AB-MA01
Philco: T174AB-PA01

Note: If replacement of the Remote Transmitter is necessary, include the full replacement part number depending upon the brand name.

ATC TUNER CONTROL UNIT/CLUSTER ASSEMBLY INFORMATION

ATC189 TUNER CLUSTER ASSEMBLY

Ref.	Description	Part No.
CONTROL ASSEMBLIES		
A10098	MCU Control Panel * (E.P.)	A10098-A002
A10238	MCU Control Panel * (L.P.)	A10238-A001
ASC103	Secondary Control Module	ASC103-A001
A10144	Remote Reciever Module (E.P.)	A10144-A002
A10157	Remote Reciever Module (L.P.)	A10157-A001
	UHF/VHF Tuner Module (125 Ch.)	3402620003
MISCELLANEOUS		
	Front Housing Bezel	1449470006
	Decorative Overlay w/Graphics	1517830023
	Keyboard Buttons (15 used)	1449630007
	Light Diffuser f/LDR	1449420001
	Upper Support Bracket (Plastic)	1454000001
	Lower Support Bracket (Plastic)	1453480001
	Keyboard Retainer (Plastic)	1450160001
	Foam Cushion f/Keyboard	6451370001
	Pressure Pad Keyboard	7043700001
	Static Ground Clips (2 used)	1035740002
S	Capristor (Mounted on Terminal Strip)	2502330007
LDR1	Light Dependent Resistor	2303160002
IC1030	LED Channel Display	5302650001
C1036	Capacitor, 1000pF., 10%, 50V, Ceramic (f/IC1030)	2508281029
C1038	Capacitor, .01uF., 10%, 50V, Ceramic (f/IC1030)	2508311039

Ref.	Description	Part No.
MISCELLANEOUS (Continued)		
P1	5 Pin Connector Housing	1816140005
	Contacts f/P1 (3 used)	2006060001
P6	8 Pin Connector w/contacts	1817140008
	Negative Polarizing Key f/P6	1813510001
PL510	2 Pin Male Connector Housing	1811420001
	Female Contacts f/PL510 (2 used)	1809300001
CN1030	7 Pin Connector w/contacts	1813750007
CN1180	4 Pin Connector Housing	1811930004
	Contacts f/CN1180 (3 used)	1811330001
	4 Pin Connector Housing (to Remote Reciever Module)	1811930004
	Contacts f/the above connector (3 used)	1811330001
	Cable Asm. f/Prescaler Output	4614210003
P13	4 Pin Connector Housing	1812100004
	Contacts f/P13 (4 used)	1810110001
P15	1 Pin Connector Housing	1812100001
	Contact f/P15	1810110001
CN1300	4 Pin Connector w/contacts	1813802004
CN1302	5 Pin Connector w/contacts	1813802005
	Static Shield f/Keyboard (Foil, E.P.)	6453220007
	Insulator f/Keyboard (L.P.)	6456440002
	Shield Cover f/MCU Bd.	7344430001

Courtesy of Manufacturer

A10208-A001 TS-7 DISPLAY MODULE REPLACEMENT PARTS LIST

Ref.	Description	Part No.
D451	Channel Display LED	5303030001
C451	1000pF., 10%, 50V, Ceramic Capacitor	2508311029
C452	1000pF., 10%, 50V, Ceramic Capacitor	2508311029
CN1000	8 Pin Connector	1811931008
	Contacts f/CN1000 (8 used)	1811330001
CN1030	3 Pin Connector	1811931003
	Contacts f/CN1030 (3 used)	1811330001
	Socket f/Channel Display LED	1816200018

A10199-A001 VOLUME CONTROL MODULE REPLACEMENT PARTS LIST

Ref.	Description	Part No.
R700	Slide Volume Control, 5k ohm	2204320006
J103	3 Pin Female Connector	1807340001
	Male Contacts f/J103 (3used)	1807260002
	Square Wire Pins (3 used)	1811580101

A10157-A001 REMOTE RECIEVER MODULE REPLACEMENT PARTS LIST

Ref.	Description	Part No.
TRANSFORMERS		
T2	Inductor	3619870001
CAPACITORS (All are 10%, 50V, Ceramic unless specified otherwise.)		
C2	22uF., 25V, Electrolytic	2701592125
C5	.047uF., +80-20%	2530084739
C7	22000pF., +80-20%	2530082239
C8	4700pF.	2530084729
C9	.01uF.	2530081039
C10	4700pF.	2530084729
C11	22uF., 25V, Electrolytic	2701592125
C12	6800pF., 2%, Polyester	2508786822
C13	.01uF.	2530081039
C14	.01uF.	2530081039
RESISTORS (All are 5%, ¼W, Carbon Film unless specified otherwise.)		
R5	100 ohm	2310011015
R6	47 ohm	2310014795
R7	10k	2310011035
R8	100k	2310011045
R9	10k	2310011035
R10	270k	2310012745
R11	10k	2310011035
R12	180k	2310011845
R13, R14	33k, (2 used)	2310013335
R15, R16	18k, (2 used)	2310011835
SEMICONDUCTORS		
D1	Photo Diode	5302350001
D2	Silicon Diode	5303176001
Q2	NPN Transistor	6105070002
Q3	NPN Transistor	6105070002
Q4	NPN Transistor	6105070002
IC1	Remote Reciever IC	6124500002
MISCELLANEOUS		
	4 Pin Waffer Connector	1815310104
	Preamp Support	1452330002
	Grille	7326110002
	Cap-Front	7343920001
	Cap-Rear	7344150002

Note: The A10157 module contains 'chip' type components. Special equipment may be required to service this module.

ALD006, ALD007, ALD008, ALD015 & ALD016 LED INDICATOR MODULE REPLACEMENT PARTS LIST

Ref.	Description	Part No.
	Round Stereo Ind. LED (Red) for ALD006 Module only)	5301890001
	Square Stereo Ind. LED (Red)	5302970003
	Round S.A.P. Ind. LED (Amber) for ALD006 Module only)	5301890002
	Square S.A.P. Ind. LED (Amber)	5302970002
	Square Audio/Video Ind. (Green) for ALD016 Module only)	5302970001
PD3	5 Pin Connector w/contacts	1817140005
	Negative Polarizing Key f/PD3	1813510001
	LED Connector Sockets (2 used on ALD015, 3 used on ALD016)	1815269002

ALD020 & ALD021 TS9 CHANNEL SELECT DISPLAY MODULE REPLACEMENT PARTS LIST

Ref.	Description	Part No.
D451	Channel Display LED (ALD020)	5302480001
D451	Channel Display LED (ALD021)	5303030001
	Push Button Switch (6 used)	1606880004
	Socket DIP LED	1816200018
CN1000	8 Pin Housing	1811931008
	Terminal Crimp f/CN1000 (7 used)	1811330001
CN1020	7 Pin Housing	1811931007
	Terminal Crimp f/CN1020 (5 used)	1811330001

A10138-A001 &-A002 REMOTE RECIEVER MODULE REPLACEMENT PARTS LIST

Ref.	Description	Part No.
TRANSFORMERS		
T1	Inductor (-A001 only)	3619870003
T2	Inductor	3619870001
CAPACITORS (All are 10%, 50V, Ceramic Disc unless specified otherwise.)		
C1	390pF., (-A001 only)	2508313919
C2	22uF., 25V, Electrolytic	2701592125
C3	470pF., (-A001 only)	2508314719
C4	.047uF., +80-20%, (-A001 only)	2508334738
C5	.047uF., +80-20%	2508334738
C6	.047uF., +80-20%, (-A001 only)	2508334738
C7	22000pF., +80-20%	2508332238
C8	4700pF.	2508314729
C9	.01uF.	2508311039
C10	4700pF.	2508314729
C11	22uF., 25V, Electrolytic	2701592125
C13	.01uF., (-A002 only)	2508311039
C14	.01uF., (-A002 only)	2508311039
RESISTORS (All are 5%, ¼W, Carbon Film unless specified otherwise.)		
R1	100k	2302841045
R2	1 Meg.	2302851055
R3	1 Meg.	2302851055
R4	4.7k	2302854725
R5	100 ohm	2302851015
R6	47 ohm	2302854705
R15 & 16	18k, (2 used -A002 only)	2302851835
SEMICONDUCTORS		
D1	Photo Diode, Silicon	5302350001
Q1	NPN Transistor (-A001 only)	6100940004
IC1	Remote Reciever IC	6124500001
MISCELLANEOUS		
	Front Cap Shield	7343920001
	Rear Cap Shield	7344150002
	Reciever Grille	7326110002
	Spacer	1448050001
	Support Bracket	1452330002
	4 Pin Waffer Connector	1815310104

Courtesy of Manufacturer

DISPLAY, VOLUME CONTROL, REMOTE RECEIVER, LED INDICATOR PARTS LIST

A10283-A001 INTERCONNECT BOARD ASSEMBLY REPLACEMENT PARTS LIST

Ref.	Description	Part No.
CN1000	8 Pin P.C. Board Edge Connector	1811931008
	Contacts f/CN1000 (7 used)	1811330001
CN1020	7 Pin Connector w/contacts	1816520007
CN1002	10 Pin Connector w/contacts	1813750010
	Negative Polarizing Key f/CN1000	1813760001
	Keyboard	7043700002
	Retainer f/Keyboard	1450160002

A10284-A001 INTERCONNECT BOARD ASSEMBLY REPLACEMENT PARTS LIST

Ref.	Description	Part No.
CN1000	8 Pin P.C. Board Edge Connector	1811931008
	Contacts f/CN1000 (7 used)	1811330001
CN1020	7 Pin Connector w/contacts	1816520007
CN1030	5 Pin Connector w/contacts	1816520005
CN1002	10 Pin Connector w/contacts	1813750010
	Negative Polarizing Key f/CN1000	1813760001
	Keyboard	7043700002

MCU TUNING CONTROL ASSEMBLIES GENERAL REPLACEMENT PARTS LIST

*Note: If replacement of the MCU Panel is necessary, remove and save the following components/parts as they will not be supplied with the replacement panel.

Ref.	Description	Part No.
IC1000	Microcomputer IC	6124420001
IC2000	Frequency Synthesizer IC	6123370001
IC3000	Interface IC	6123360001
	MCU to Prescaler Output Cable Assembly	-----
	Phono Plug	1808150002
P1	5 Pin Connector (see note 1)	1816140005
	Contactsf/P1 (3 used on Remote, 2 used on Non-Remote)	2006060001
P6	8 Pin Connector w/ contacts	1817140008
	Negative Polarizing Key f/P6	1813510001
P13	4 Pin Connector	1012101004
	Contacts f/P13 (4 used)	1810110001
P15	1 Pin Connector	1812100001
	Contact f/P15	1810110001
P103	3 Pin Male Connector w/contacts (present on Non-Remote Tun. Sys. Asm's.)	1807350002
	Female Contacts f/P103 (3 used)	1807250002
P203	4 Pin Connector w/contacts (Present on models incorporating the 1.5W Stereo Amplifier Panel.)	1817140004
	Negative Polarizing Key f/P203	1813510001
PL510	2 Pin Male Connector (Remote versions only	1811420001
	Female Contacts f/PL510 (2 used)	1800930001
CN1300	4 Pin Connector w/contacts	1813802004
	Contact Cover f/CN1300	1813821004
CN1302	5 Pin Connector w/contacts	1813802005
	Contact Cover f/CN1302	1813821005

MCU REMOTE TUNING SYSTEM ASSEMBLY (WITH/WITHOUT FAVORITE STATION) REPLACEMENT PARTS LIST

*Indicates that these components will not be supplied with a replacement panel.

Ref.	Description	Part No.
COILS & TRANSFORMERS		
L1003	33uH., Peaking Coil (L.P. only)	3618353309
L1012	4.7uH., Peaking Coil (L.P. only)	3618134799
L1212	5.6uH., Peaking Coil (L.P. only)	3618355699
L1180	33uH., Peaking Coil	3614443309
L1571	22uH., Peaking Coil (L.P.)	3618362209
L1590	100uH., Peaking Coil	3617351015
S T1500	Power Transformer	3003840002
CAPACITORS (All are 50Vdc, 10%, Cer. Disc. unless otherwise specified.)		
C1003	.01uF.	2508311039
C1008 thru C1014	.001uF., (7 used)	2508311029
C1016 thru C1018	.001uF. (3 used)	2508311029
C1020 thru C1027	.001uF. (8 used)	2508311029
C1028	1uF., Electrolytic	2701591050
C1052	.01uF., (Favorite Station Models only)	2508311039
C1056	.01uF., (Favorite Station Models only)	2508311029
C1058	.01uF., (Favorite Station Models only)	2508311029
C1080	.01uF., 20%	2508311039
C1081	.1uF., 20%, 100V, Polyester	2508141040
C1082	4.7uF., Electrolytic	2701595050
C1150	22uF., 35V, Electrolytic	2701592135
C1180	.01uF	2508281039
C1182	1000pF.	2508281029
C1202	15pF., 5%, N220	2508421505
C1204	27pF., 5%, N220	2508422705
C1212	1uF., Electrolytic	2701681050
C1214	.047uf., +80-20%	2508334738
C1216	.001uF.	2508311029
CAPACITORS (Continued)		
C1222	.01uF.	2508281039
C1226	.001uF.	2508311029
C1228	1uF., Electrolytic	2701591050
C1250	6800pF.	2508316829
C1252	39pF., 5%, NPO	2508413905
C1254	1uF., Electrolytic	2701591050
C1300	.047uF., 100V, Polyester	2508454739
C1302	470pF.	2508314719
C1304	.001uF.	2508311029
C1306	100pF., 500V	2505521020
C1308	1uF., 250V, Electrolytic	2701860002
C1370	1000pF.	2701681250
C1502	3300uF., 16V, Electrolytic	2701683316
C1504	10uF., Electrolytic	2701681150
S C1520	.01uF., +80-20%	2508260017
C1550	1000pF., 500V	2505521020
C1552	1000pF., 500V	2505521020
C1554	1000uF., 16V, Electrolytic	2701681316
C1556	22uF., 160V, Electrolytic	2701860004
C1570	.47uF., Electrolytic	2701685950
C1571	.022uF., 20%, 100V, Polyester (L.P.)	2508452230
C1572	10uF., Electrolytic	2701591150
C1574	1000pF.	2508281029
C1580	1uF., Electrolytic (L.P.)	2701681050
RESISTORS		
R1008	1k	2302811025
R1009	1k	2302811025
R1010	15k	2302811535
R1012	15k	2302811535
R1013	15k	2302811535
R1014	15k	2302811535
R1015	15k	2302811535
R1017	15k	2302811535

Courtesy of Manufacturer

INTERCONNECT, MCU REMOTE TUNING SYSTEM PARTS LIST

ATS061 TUNING SYSTEM ASSEMBLY REPLACEMENT PARTS LIST (Continued)

Ref.	Description	Part No.
MISCELLANEOUS (Continued)		
CN1600	4 Pin Connector w/contacts	1816500004
	Polarizing Key f/CN1600	1816510001
P21	4 Pin Connector w/contacts	1813501004
	Contact Cover f/P21	1813822004
CN1200	9 Pin Connector w/contacts	1816500009
P6	8 Pin Connector w/contacts	1816500008
P15	1 Pin Connector	1812100001
	Contact f/P15	1810110001
CN1650	6 Pin Connector w/contacts	1816500006
	Polarizing Key f/CN1650	1816510001
P22	5 Pin Connector w/contacts	1813501005
	Contact Cover f/P22	1813822004

Ref.	Description	Part No.
MISCELLANEOUS (Continued)		
CN1040	2 Pin Connector	1812100002
	Contacts f/CN1040 (2 used)	1810110001
PL510	2 Pin Male Housing Connector	1811420001
	Female Contacts f/PL510 (2 used)	1809300001
CN1550	6 Pin Connector	1812100006
	Contacts f/CN1550 (4 used)	1810110001
	Polarizing Key f/CN1550	1810760001
P13	4 Pin Connector	1812101004
	Contacts f/P13 (4 used)	1810110001

WARNING

Critical components having special safety characteristics are identified with an S by the Ref. No. in the parts list and enclosed within a broken line* along with the safety symbol ⚠ on the schematics or exploded views.

Use of substitute replacement parts which do not have the same specified safety characteristics may create shock, fire, or other hazards.

Under no circumstances should the original design be modified or altered without written permission from the N.A.P. Consumer Electronics Corp. NAPCEC assumes no liability, express or implied, arising out of any unauthorized modification of design. Servicer assumes all liability.

* Broken line: ▬ • ▬ • ▬ • ▬ •

NOTE: THE PARTS LIST BELOW COVERS ALL TS-9 TUNER CONTROL MODULES INCORPORATED IN THE 25C5 LINE.

TS-9 TUNER CONTROL MODULES REPLACEMENT PARTS LIST

Non-Remote Version: A10201-A001 (E.P.), A10201-B002 (L.P.)
Remote Version: A10202-A001 (E.P.), A10202-B002 (L.P.)
Non-Remote with Favorite Station: A10203-A001 (E.P.), A10203-B002 (L.P.)
Remote with Favorite Station: A10204-A001 (E.P.), A10204-B002 (L.P.)

Ref.	Description	Part No.
COILS & TRANSFORMERS		
L1030	Peaking Coil, 12uH.	3619551209
L1060	Peaking Coil, 33uH.	3619553309
L1070	Peaking Coil, 33uH.	3619553309
L1096	Peaking Coil, 12uH. (Remote only)	3619551209
L1110	Peaking Coil, 33uH.	3618353309
L1111	Peaking Coil, 33uH.	3618353309
L1112	Peaking Coil, 33uH.	3618353309
L1113	Peaking Coil, 33uH.	3618353309
L1114	Peaking Coil, 33uH.	3618353309
L1115	Peaking Coil, 33uH.	3618353309
L1116	Peaking Coil, 33uH.	3618353309
L1236	Peaking Coil, 12uH.	3619551209
L1546	Peaking Coil, 82uH. (Non-Remote only)	3618358205
S T1500	Power Transformer (Remote only)	3004000002
CAPACITORS (All are 10%, 50V, Ceramic Disc unless otherwise specified)		
C1008	.001uF.	2507481020
C1009	.001uF.	2507481020
C1010	.001uF.	2507481020
C1011	.001uF.	2507481020
C1013	1000pF.	2508311029
C1015	27pF.	2507392705
C1016	27pF.	2507392705
C1025	1000pF.	2508311029
C1026	1000pF.	2508311029
C1027	1000pF.	2508311029
C1028	22uF., 25V, Electrolytic	2701682125
C1030	.022uF., 100V,	2508452239
C1036	.1uF., 100V, Polyester	2509591049
C1038	.1uF., 100V, Polyester	2509591049
C1039	1000pF.	2508311029

Ref.	Description	Part No.
CAPACITORS (Continued)		
C1040	1000pF.	2508311029
C1041	1000pF.	2508311029
C1064	.01uF.	2508451039
C1065	.01uF.	2508311039
C1074	.01uF.	2508451039
C1090	1000pF. (Remote only)	2508281029
C1096	1000pF. (Remote only)	2508281029
C1110	1000pF.	2508311029
C1111	1000pF.	2508311029
C1112	1000pF.	2508311029
C1113	1000pF.	2508311029
C1114	1000pF.	2508311029
C1115	1000pF.	2508311029
C1116	1000pF.	2508311029
C1120	1000pF. (-A001 Versions only)	2508311029
C1121	1000pF. (-A001 Versions only)	2508311029
C1122	1000pF. (-A001 Versions only)	2508311029
C1123	1000pF. (-A001 Versions only)	2508311029
C1124	1000pF. (-A001 Versions only)	2508311029
C1125	1000pF. (-A001 Versions only)	2508311029
C1126	1000pF. (-A001 Versions only)	2508311029
C1132	1000pF.	2508281029
C1156	10uF., 20%, 50V, Electrolytic	2701591150
C1210	1uF., 100V, Polyester	2506000011
C1211	.001uF.	2507481020
C1212	.068uF.	2508456839
C1213	1000pF.	2508311029
C1215	.001uF.	2507481020
C1219	47uF., 25V, Electrolytic	2701595125
C1220	.01uF.	2508311039
C1221	47pF.	2508414705
C1222	10pF., NPO	2508371008
C1226	.001uF.	2507481020

Courtesy of Manufacturer

TS-9 REPLACEMENT PARTS LIST (Continued)

Ref.	Description	Part No.
CAPACITORS (Continued)		
C1230	.001uF.	2507481020
C1232	22uF., 25V, Electrolytic	2701682125
C1236	.001uF.	2507481020
C1250	.001uF.	2507481020
C1270	.1uF., 100V, Polyester	2509591049
C1310	.001uF.	2507481020
C1324	.001uF.	2507481020
C1326	.001uF.	2507481020
S C1500	1000pF., (Remote only)	2508281029
S C1502	1000pF., (Remote only)	2508281029
C1504	3300uF., 16V, Electrolytic	2701683316
C1506	.022uF., 100V	2508452239
C1510	10uF., 20%, 50V, Electrolytic	2701591150
C1518	.022uF., 100V,	2508452239
C1520	1000pF., (Remote only)	2508281029
S C1530	.01uF., +80 -20%, (Remote only)	2506260017
C1540	1000pF.	2508281029
C1544	1uF., 20%, 50V, Electrolytic	2701591050
C1546	470uF., 16V, Electrolytic (Non-Remote only)	2701685216
C1558	.001uF.	2507481020
C1582	.001uF.	2507481020
C1590	1000uF., 16V, Electrolytic	2701681316
C1592	.022uF., 100V,	2508452239
RESISTORS (All are Carbon Film, 5%, ¼W, unless otherwise specified)		
RA1000	27k ohm x7 (Resistor Array, -A001 only)	2540032735
R1001	10k (Remote)	2302811035
R1001	1k (Non-Remote)	2302811035
R1002	2.4k	2302812425
R1003	2.4k	2302812425
R1008	1k	2302811025
R1009	1k	2302811025
R1010	1k	2302811025
R1011	1k	2302811025
R1013	10k (Remote only)	2302811035
R1014	1k	2302811025
R1015	1megohm	2302811015
R1025	1k	2302811025
R1026	1k	2302811025
R1060	2.7k	2302812725
R1062	22k	2302812235
R1070	2.7k	2302812725
R1072	22k	2302812235
R1090	1k (Remote only)	2302811025
RA1100	27k ohm x7 (Resistor Array, -A001 only)	2540032735
R1110	160 ohm (E.P.)	2302811615
R1110	220 ohm (L.P.)	2302812215
R1111	160 ohm (E.P.)	2302811615
R1111	220 ohm (L.P.)	2302812215
R1112	160 ohm (E.P.)	2302811615
R1112	220 ohm (L.P.)	2302812215
R1113	160 ohm (E.P.)	2302811615
R1113	220 ohm (L.P.)	2302812215
R1114	160 ohm (E.P.)	2302811615
R1114	220 ohm (L.P.)	2302812215
R1115	160 ohm (E.P.)	2302811615
R1115	220 ohm (L.P.)	2302812215
R1116	160 ohm (E.P.)	2302811615
R1116	220 ohm (L.P.)	2302812215
R1150	390 ohm	2302813915
R1152	330 ohm	2302813315
R1154	1.8k	2302811825
R1207	10k (with Favorite Station)	2302811035
R1207	4.7k (with out Favorite Station)	2302811035
R1210	3.3k	2302813325
R1211	15k	2302811535
R1212	2.2k	2302812225
R1213	10k	2302811035
R1214	100 ohm	2302811015
R1216	10k	2302811035
R1217	10k	2302811035
R1218	12 ohm	2302811205
R1219	5.6 ohm	2302815695
R1226	10k	2302811035
R1230	3.3k	2302813325
R1232	3.3k (Remote)	2302813325

Courtesy of Manufacturer

Ref.	Description	Part No.
RESISTORS (Continued)		
R1232	8.2k (Non-Remote)	2302818225
R1234	10k	2302811035
R1250	1k	2302811025
R1254	560k	2302815645
R1256	560k	2302815645
R1258	10k	2302811035
R1260	10k	2302811035
R1262	27k	2302812735
R1270	56k	2302815635
R1272	1.5k	2302811525
R1274	1.8k	2302811825
R1276	1.8k	2302811825
R1306	47k	2302814735
R1307	47k	2302814735
R1320	4.7k	2302814725
R1322	4.7k	2302814725
R1324	22k	2302812235
R1326	22k	2302812235
R1520	10k (Remote only)	2302811035
R1522	4.7k (Remote only)	2302814725
R1524	39 ohm (Remote only)	2302813905
S R1530	82 ohm (Remote only)	2302818205
R1542	2k	2302812025
S R1560	22k, 2.5W	2302662235
R1562	100 ohm	2302811015
SEMICONDUCTORS		
Z1150	Zener Diode, 5.6V	5301571569
D1154	Silicon Diode	5301811001
D1156	Schottky Diode	5302471001
D1212	Silicon Diode	5301811001
D1214	Silicon Diode	5301811001
S D1500	Silicon Diode (Remote only)	5301711002
S D1502	Silicon Diode (Remote only)	5301711002
D1504	Silicon Diode	5301711002
D1524	Silicon Diode (Remote only)	5301711002
D1540	Silicon Diode	5301511003
Z1544	Zener Diode, 15V	5301571150
D1546	Silicon Diode (Non-Remote only)	5301511003
Z1562	Zener Diode, 33V	5301921330
IC1000	Microcomputer (-A001)	6124980001
IC1000	Microcomputer (-B002)	6125540001
IC1100	Display Driver (-A001 only)	6124920001
IC1200	Tuner Interface	6124240001
IC1300	Tuning Memory (Favorite Station only)	6124850002
IC1500	5V Regulator	6124790001
Q1060	Silicon Transistor	6102230001
Q1070	Silicon Transistor	6102230001
Q1150	NPN Transistor	6102320002
Q1250	PNP Transistor	6100830001
Q1252	NPN Transistor	6102320002
Q1320	Silicon Transistor	6102230001
Q1322	Silicon Transistor	6102230001
Q1520	NPN Transistor (Remote only)	6102320002
Q1522	Silicon Transistor (Remote only)	6102240001
MISCELLANEOUS		
CN1000	8 Pin Contact Wafer	1816530008
CN1020	7 Pin Contact Wafer	1816530007
CN1030	5 Pin Contact Wafer	1816530005
CN1090	4 Pin Contact Wafer (Remote only)	1816530004
CN1250	5 Pin Contact Wafer	1814920405
	28 Pin DIP Socket f/IC1000	1815220028
	16 Pin DIP Socket f/IC1100 (-A001 Versions only)	1815220016
	24 Pin DIP Socket f/IC1200	1815220024
	8 Pin DIP Socket f/IC1300 (Favorite Station only)	1815220008
XT1000	Ceramic Resonator, 5.12Mhz. (-B002)	3620560001
XT1000	Crystal, 5.12Mhz. (-A001)	5604440002
XT1200	Crystal, 4.000Mhz.	5604440010
S F1500	Fuse - Slow Blow (Remote only)	1808655010
	Heat Sink f/IC1500	7316650002
S RY1500	Relay Power Switch (Remote only)	1607230005
	Wrap Shield f/TS9	7347050001
	Cover f/IF	7347060002
	Cover f/IF Bottom	7347520004

ADP018-A001 & ADP019-A001 CHANNEL SELECT/DISPLAY MODULES REPLACEMENT PARTS LIST

Ref.	Description	Part No.
MISCELLANEOUS		
D451	Channel Select LED (Green, APD018)	5302480001
D451	Channel Select LED (Red, ADP019)	5303030001
S11	Volume Down Sw.	1606880004
S12	Volume Up Sw.	1606880004
S13	Channel Down Sw.	1606880004
S14	Channel Up Sw.	1606880004
S15	Power On-Off Switches (2 used)	1606880004
	Socket f/Channel Display LED	1816200018
CN1000	8 Pin Connector	1816520008
CN1020	7 Pin Connector	1816520007

ASC127-A001 & ASC194-A001 SECONDARY CONTROL MODULES REPLACEMENT PARTS LIST

Ref.	Description	Part No.
RESISTORS (All are ¼W, 5%, Carbon Film unless otherwise specified)		
R701	1k	2302811025
R702	1500 ohm	2302811525
R731	680k	2302816845
R741	75k	2302817535
R743	22k (Non-LDR sets only)	2302812235
R751	5600 ohm	2302815625
R752	5600 ohm	2302815625
R761	5600 ohm	2302815625
R762	10k	2302811035
R763	2200 ohm	2302812225
CONTROLS & SWITCHES		
R720	10k, 20%, Sharpness Control	2204590016
R730	10k, 20%, Brightness	2204590001
R740	10k, 20%, Picture Control	2204590001
R750	10k, 20%, Tint Control	2204590001
R760	10k, 20%, Color Control	2204590001
S703	Cable/Normal Switch (ASC194 only)	1607100007
MISCELLANEOUS		
P3	9 Pin Connector w/Contacts	1817140009
	Negative Polarizing Key f/P3, Pin 6	1813510001
CN1030	5 Pin Connector w/Contacts (ASC194 only)	1816520005

T175AB-MA01 & -SA01 17 BUTTON REMOTE TRANSMITTER REPLACEMENT PARTS LIST

Ref.	Description	Part No.
CAPACITORS		
C1	.047uF., 20%	2508804730
C2	180pF., ±2.5pF., Polypropylene	2507191812
C3	220uF., 16V, Electrolytic	2702032216
C4	50pF., Trimmer	2602200003
RESISTORS (All are 5% Carbon Film unless otherwise specified.)		
R1	15k	2302811535
R2	10k	2302811035
R3	12k	2302811235
R4	2700 ohm	2302142725
R5	3.3k	2302813325
R6	33k	2302813335
R7	300k	2302813045
R8	3 ohm	2302813095
CONTROLS & SWITCHES		
	Pressure Pad Keyboard	7043700001
SEMICONDUCTORS		
D2	Silicon Diode	5301811001
D3	Infrared Emitting	5302740001
D4	Infrared Emitting	5302740001
D5	Infrared Emitting	5302740001
D6	Silicon Diode	5301811001
D7	Silicon Diode	5301811001

17 BUTTON TRANSMITTER REPLACEMENT PARTS LIST (Continued)

Ref.	Description	Part No.
SEMICONDUCTORS (Continued)		
Q1	NPN Silicon Transistor	6102240001
Q2	NPN Silicon Transistor	6102240001
Q3	PNP Silicon Transistor	6101580003
IC1	Remote Transmitter IC	6122470002
MISCELLANEOUS		
	Pushbutton Array	1459060004
	Case Top	1458810001
	Inlay f/Case Top (Magnavox)	1520890005
	Inlay f/Case Top (Sylvania)	1520890006
	Case Bottom	1458820001
	Battery Door	1459050001
	Window f/Infrared Transmission	1459040001
	Battery Connector & Lead Asm.	1814200002

Note: If replacement of the Remote Transmitter is necessary, include the full replacement part number depending upon the brand name. Sylvania: T175AB-SA01
Magnavox: T175AB-MA01

A10138-B003 & ARR003-A001 REMOTE RECEIVER MODULES REPLACEMENT PARTS LIST

Ref.	Description	Part No.
TRANSFORMERS		
T2	Inductor	3619870001
CAPACITORS (All are 10%, 50V, Ceramic Disc unless specified otherwise.)		
C2	22uF., 25V, Electrolytic	2701592125
C5	.047uF., +80-20%	2508334738
C7	22000pF., +80-20%	2508332238
C8	4700pF.	2508314729
C9	.01uF.	2508311039
C10	4700pF.	2508314729
C11	22uf., 25V, Electrolytic	2701592125
C13	.01uF.	2508311039
C14	.01uF.	2508311039
RESISTORS (All are 5%, ¼W, Carbon Film unless specified otherwise.)		
R5	100 ohm	2302851015
R6	47 ohm	2302854705
R15, 16	18k, (2 used)	2302851835
SEMICONDUCTORS		
D1	Photo Diode, Silicon	5302350001
IC1	Remote Reciever IC	6124500001
MISCELLANEOUS		
	Front Cap Shield	7347270001
	Rear Cap Shield	7344150002
	Receiver Grille	7326110003
	Lens (A10138-B003)	1457400003
	Lens (ARR003-A001)	1457400002
	Spacer	1448050001
	Support Bracket	1452330002
	4 Pin Waffer Connector	1815310104

ATS061-A001 TUNING SYSTEM ASSEMBLY REPLACEMENT PARTS LIST

Ref.	Description	Part No.
CONTROL ASSEMBLIES		
A10202	TS-9 Tuner Control Module	A10202-B002
	UHF/VHF Tuning Mudule	3402910001
MISCELLANEOUS		
	Plastic Frame f/TS-9	1457260002
	Cable Asm. (Tuner to IF Input)	4616110004
	-Phono Plugs (2 used)	1813730002
P1	5 Pin Connector Housing	1816140005
	Contacts f/P1 (3 used)	2006060001
P1500	5 Pin Connector Housing	1816140005
	Contacts f/P1500 (3 used)	2006060001
CN1660	2 Pin Connector	1812101002
	Contacts f/CN1660 (2 used)	1810110001
	Phono Plug (to Prescaler Output)	1813730001

Courtesy of Manufacturer

CHANNEL SELECT/DISPLAY, SECONDARY CONTROLS, REMOTE TRANSMITTER, REMOTE RECEIVER, TUNING SYSTEM PARTS LIST

AMP004-A001 & -B002 1.5 WATT STEREO AMP PANEL REPLACEMENT PARTS LIST

Ref.	Description	Part No.
CAPACITORS		
C201	1uF., 50V, Electrolytic	2701681050
C202	1uF., 50V, Electrolytic	2701681050
C203	1uF., 50V, Electrolytic	2701681050
C204	.22uF., 50V, Electrolytic	2701682950
C205	.22uF., 50V, Electrolytic	2701682950
C206	.22uF., 50V, Electrolytic	2701682950
C207	.015uF., 10%, 100V, Polyester	2508801539
C208	.015uF., 10%, 100V, Polyester	2508801539
C209	.068uF., 10%, 100V, Polyester	2508806839
C210	.068uF., 10%, 100V, Polyester	2508806839
C211	.1uF., 20%, 100V, Polyester	2508801040
C212	.22uF., 50V, Electrolytic	2701682950
C213	1uF., 50V, Electrolytic	2701681050
C214	1uF., 50V, Electrolytic	2701681050
C215	100uF., 16V, Electrolytic	2701681216
C216	10uF., 16V, Electrolytic	2701681150
C217	10uF., 16V, Electrolytic	2701681150
C218	.01uF., 10%, 50V, Ceramic	2508281039
C301	1uF., 50V, Electrolytic	2701681050
C302	1uF., 50V, Electrolytic	2701681050
C303	1000pF., 10%, 50V, Ceramic	2508281029
C304	1000pF., 10%, 50V, Ceramic	2508281029
C305	22uF., 25V, Electrolytic	2701682125
C306	22uF., 25V, Electrolytic	2701682125
C307	.1uF., 20%, 100V, Polyester	2508801040
C308	.1uF., 20%, 100V, Polyester	2508801040
C309	200uF., 25V, Electrolytic	2701682225
C310	200uF., 25V, Electrolytic	2701682225
S C401	.01uF., 10%, 50V, Ceramic	2508281029
S C402	.01uF., 10%, 50V, Ceramic	2508281029
S C403	.01uF., 10%, 50V, Ceramic (-B002 only)	2508281029
S C404	.01uF., 10%, 50V, Ceramic (-B002 only)	2508281029
S C405	.01uF., 10%, 50V, Ceramic (-B002 only)	2508281029
S C406	.01uF., 10%, 50V, Ceramic (-B002 only)	2508281029
S C407	1000uF., 50V, Electrolytic (B002 only)	2701681350
S C408	1000uF., 50V, Electrolytic (-B002 only)	2701681325
S C409	1000uF., 35V, Electrolytic	2701681335
C410	470uF., 25V, Electrolytic	2701685225
C411	.1uF., 20%, 100V, Polyester	2508801040
C412	.1uF., 20%, 100V, Polyester	2508801040
C413	470uF., 35V, Electrolytic	2701685235
C414	470uF., 35V, Electrolytic	2701685235
RESISTORS (All are Carbon Film, 5%, ¼W unless otherwise specified)		
R201	22K	2302812235
R202	22k	2302812235
R203	2.7k	2302812725
R204	2.7k	2302812725
R205	47k	2302814735
R206	220k	2302812245
R207	1k	2302811025
R208	1k	2302811025
R209	47k	2302813395
R210	47k	2302813395
R211	10k	2302811035
R212	100k	2302811045
R213	10k	2302811035
R214	1k	2302811025
R215	1k	2302811025
R217	22k	2302812235
R218	22k	2302812235
R219	10k	2302811035
R220	10k	2302811035
R221	10k	2302811035
R222	100k	2302811045
R223	2.2k	2302812225
RESISTORS (Continued)		
R224	2.2k	2302812225
R301	3.3ohm	2302813395
R302	3.3ohm	2302813395
S R401	220 0hm, 1.6W, Metal Film	2303092215
S R402	100 ohm, 1.6W, Metal Film (-B002 only)	2303091015
SEMICONDUCTORS		
S D401	Diode, Silicon, 1 A, 200V	5301711001
S D402	Diode, Silicon, 1 A, 200V	5301711001
S D403	Diode, Silicon, 1 A, 200V (-B002 only)	5301711001
S D404	Diode, Silicon, 1 A, 200V (-B002 only)	5301711001
S D405	Diode, Silicon, 1 A, 200V (-B002 only)	5301711001
S D406	Diode, Silicon, 1 A, 200V (-B002 only)	5301711001
Z401	Zener Diode, 12V	5301571120
IC201	DC Vol. & Tone	6124120002
IC301	Audio Output	6123270001
IC302	Audio Output	6123270001
Q201	NPN Silicon	6102320002
Q202	NPN Silicon	6102320002
Q203	NPN Silicon	6102320002
Q204	PNP Silicon	6102340001
MISCELLANEOUS		
S F401	Fuse, ¼ Amp., 125V	1810215025
S	Fuse Block	2006100001
S	Fuse Insulator	6455410001
	Square Wire Pins (20 used)	1811580101
	Contact Pins (6 used)	1808820105
	Heat Sink (2 used)	7346710001
	Compound Heat Sink	8202230004

Courtesy of Manufacturer

Courtesy of Manufacturer

1.5W STEREO AMP PARTS LIST

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MCU REMOTE TUNING SYSTEM ASSEMBLY (WITH/WITHOUT FAVORITE STATION) REPLACEMENT PARTS LIST (CONT'D)

Ref.	Description	Part No.
RESISTORS (Continued)		
R1018	15k	2302811535
R1022	4.7k	2302814725
R1024	4.7k	2302814725
R1025	10k (L.P.; 5 Button Hotel - Motel)	2302811035
R1026	4.7k	2302814725
R1027	10k (omitted on 5 Button Hotel - Motel)	2302811035
R1028	10K (L.P.; 5 Button Holel - Motel)	2302811035
R1029	10k (omitted on 5 Button Hotel - Motel)	2302811035
R1030	10k	2302811035
R1032	10k	2302811035
R1034	4.7k (L.P.)	2302814725
R1040	1k (L.P.)	2302811025
R1041	1k (L.P.)	2302811025
R1042	1k (L.P.)	2302811025
R1043	1k (L.P.)	2302811025
R1044	1k (L.P.)	2302811025
R1045	1k (L.P.)	2302811025
R1046	1k (L.P.)	2302811025
R1047	1k (L.P.)	2302811025
R1052	680k (Favorite Station Models only)	2302816845
R1054	510 ohm, ½W (Favorite Station Models only)	2302815115
R1056	2.2k (Favorite Station Models only)	2302812225
R1058	2.2k (Favorite Station Models only)	2302812225
R1060	2.7k, 2% (Favorite Station Models only)	2302812722
R1062	15k (Favorite Station Models only)	2302811535
R1064	15k (Favorite Station Models only)	2302811535
R1066	390 ohm, 2% (Favorite Station Models only)	2302813912
R1072	2.2k (Favorite Station Models only)	2302812225
R1074	6.8k (Favorite Station Models only)	2302816825
R1076	1.5k	2302811525
R1082	20k	2302812035
R1083	39k	2302813935
R1084	82k	2302818235
R1085	160k	2302811645
R1086	330k	2302813345
R1087	680k	2302816845
R1088	56k	2302815635
R1089	4.7k	2302814725
R1090	470 ohm	2302814725
R1092	330k	2302813345
R1094	1k, ½W	2302821025
R1122	82	2302818235
R1124	10k	2302811035
R1180	56k	2302815635
R1182	22k	2302812235
R1184	15k	2302811535
R1200	1megohm	2302811055
R1202	560 ohm	2302815615
R1204	560 ohm	2302815615
R1206	1k	2302811025
R1210	16k	2302811635
R1218	100k	2302811045
R1220	1megohm	2302811055
R1222	10k	2302811035
R1224	200k	2302812045
R1226	100k	2302811045
R1227	39k, 2%	2302813932
R1229	10k, 2%	2302811032
R1252	1.6k, 2%	2302811622
R1254	3.6k, 2%	2302813622
R1300	100k	2302811045
R1302	10k	2302811035
S R1306	22k, 5%, 3W, Metal Oxide	2301932235
S R1310	82k, 5%, 1W, Metal Film	2302818235
R1320	1.8k	2302811825
R1322	1.8k	2302811825
R1324	1.8k	2302811825
R1326	1.8k	2302811825
R1328	6.8k	2302816825
R1330	1.8k	2302811825
R1332	6.8k	2302816825
R1334	1.8k	2302811825
R1336	15k	2302811535
R1338	56k (w/o Favorite Station)	2302815635
R1338	27k (Favorite Station Models)	2302812735
R1340	430k (w/o Favorite Station)	2302814345
R1340	220k (Favorite Station Models)	2302812245
R1342	120k	2302811245

Ref.	Description	Part No.
RESISTORS (Continued)		
R1350	2.7k	2302812725
R1352	2k, 2%	2302812022
R1354	470 ohm, 2%	2302814712
R1370	4.7k	2302814725
R1380	33k	2302813335
R1382	10k	2302811035
R1384	10k	2302811035
R1504	330 ohm, 2%	2302813312
R1506	24 ohm, 2%	2302812402
S R1520	82 ohm, ½W	2302828205
S R1522	330 ohm, ½W	2302823315
R1530	1k	2302811025
R1531	1k	2302811025
R1532	22k	2302812235
R1550	100 ohm, ½W (w/o Favorite Station)	2302811015
R1550	82 ohm, 1W (Favorite Station Models)	2302818205
R1551	27 ohm, ½W (Favorite Station Models)	2302822705
R1560	68k	2302816835
R1580	20 ohm, 5%, 3W, Metal Oxide	2301932005
R1582	12 ohm, 2% (L.P.)	2302811202
R1590	270 ohm	2302812715
SEMICONDUCTORS		
IC1000	* Microcomputer IC *	6124420001
IC1050	Memory IC (Favorite Station Models only)	6123180001
IC1052	Shift Register IC (Favorite Station Models only)	6123350001
IC1080	Shift Register IC	6123350001
IC1200	* Frequency Synthesizer IC *	6123370005
IC1300	* Interface IC *	6123360001
IC1500	Voltage Regulator IC	6124480001
IC1580	Voltage Regulator IC (L.P. only)	6124480001
Q1080	Volume Control Buffer, NPN Transistor	6104500001
Q1110	Blocking Detector, PNP Transistor	6104600001
Q1180	Remote Amp, NPN Transistor	6104500001
Q1200	AFC Gain Switch, NPN Transistor	6104750001
Q1250	AFC Inverter, PNP Transistor	6104600001
Q1300	Tuning Voltage Buffer, PNP Transistor	6100830005
Q1304	Lo Band Clamp, NPN Transistor	6104500001
Q1310	Hi/Lo Bandswitch, PNP Transistor	6104600001
Q1312	Super Band Switch, PNP Transistor	6104600001
Q1314	VHF B+ Switch, PNP Transistor	6104600001
Q1316	UHF B+ Switch, PNP Transistor	6104600001
Q1530	Relay Driver, NPN Transistor	6104800001
Q1570	5V Regulator, NPN Transistor	6104620001
D1011	Silicon Diode	5301811001
D1035	Silicon Diode	5302521002
D1054	Zener Diode, 30V, 1W (Favorite Station Models only)	5301921300
D1062	Silicon Diode, Schottky (Favorite Station Models only)	5302471001
D1124	Silicon Diode, 100V	5302511001
D1300	Silicon Diode	5301811001
D1302	Silicon Diode	5301811001
D1304	Silicon Diode	5301811001
D1350	Silicon Diode	5301811001
D1380	Silicon Diode	5301811001
S D1500	Silicon Diode	5301711002
S D1502	Silicon Diode	5301711002
S D1504	Silicon Diode	5301711002
D1530	Silicon Diode	5301711002
D1550	Silicon Diode	5302671002
D1552	Silicon Diode	5302671002
D1560	Silicon Diode	5301711002
D1562	Silicon Diode	5301711002
D1580	Zener, 5.25V, 5W (E.P.)	5302781008
D1588	Silicon Diode	5302521002
MISCELLANEOUS		
P203	4 Pin Connector w/contacts (present on models incorporating the 1.5W Stereo Amp Panel)	1817140004
	Negative Polarizing Key f/P203	1813610001
	7 Pin Board Wafer	1814920007
	7 Pin CN1030 to Display Connector	1815120007
CN1052	4 Pin PC Board Wafer	1814920024
	4 Pin PC Board f/CN1180	1814920004

Courtesy of Manufacturer

MCU REMOTE TUNING SYSTEM PARTS LIST

ATC206 TUNER CLUSTER ASSEMBLY

Ref.	Description	Part No
CONTROL ASSEMBLIES		
A10096	MCU Control Panel * (E.P.)	A10096-A001
A10236	MCU Control Panel * (L.P.)	A10236-A001
ASC118	Secondary Control Module	ASC118-A001
A10144	Remote Reciever Module (E.P.)	A10144-A002
A10157	Remote Reciever Module (L.P.)	A10157-A001
	UHF/VHF Tuner Module (125 Ch.)	3402620003
MISCELLANEOUS		
	Front Housing Bezel	1449470006
	Decorative Overlay w/Graphics	1517830013
	Keyboard Buttons (15 used)	1449630007
	Light Diffuser f/LDR	1449420001
	Light Filter f/IR Remote	1448390001
	Upper Support Bracket (Plastic)	1454000001
	Lower Support Bracket (Plastic)	1453480001
	Keyboard Retainer (Plastic)	1450160001
	Foam Cushion f/Keyboard	6451370001
	Pressure Pad Keyboard	7043700001
	Static Ground Clips (2 used)	1035740002
S	Capristor (Mounted on Terminal Strip)	2502330007
LDR1	Light Dependent Resistor	2303160002
IC1030	LED Channel Display	5302650001
C1036	Capacitor, 1000pF., 10%, 50V, Ceramic (f/IC1030)	2508281029
C1038	Capacitor, .01uF., 10%, 50V, Ceramic (f/IC1030)	2508311039
P1	5 Pin Connector Housing	1816140005
	Contacts f/P1 (3 used)	2006060001
P6	8 Pin Connector w/contacts	1817140008
	Negative Polarizing Key f/P6	1813510001
PL510	2 Pin Male Connector Housing	1811420001
	Female Contacts f/PL510 (2 used)	1809300001
CN1030	7 Pin Connector w/contacts	1813750007
CN1180	4 Pin Connector Housing	1811930004
	Contacts f/CN1180 (3 used)	1811330001
	4 Pin Connector Housing (to Remote Reciever Module)	1811930004
	Contacts f/the above connector (3 used)	1811330001
	Cable Asm. f/Prescaler Output	4614210003
P13	4 Pin Connector Housing	1812100004
	Contacts f/P13 (4 used)	1810110001
P15	1 Pin Connector Housing	1812100001
	Contact f/P15	1810110001
CN1300	4 Pin Connector w/contacts	1813802004
CN1302	5 Pin Connector w/contacts	1813802005
	Static Shield f/Keyboard (Foil, E.P.)	6453220007
	Insulator f/Keyboard (L.P.)	6456440002
	Shield Cover f/MCU Bd.	7344430001

ATC222 TUNER CONTROL UNIT ASSEMBLY

Ref.	Description	Part No.
CONTROL ASSEMBLIES		
ASW011	Five Function Scan Module	ASW011-A001
ASW012	Program Switch Module	ASW012-A001
ASC126	Secondary Control Module	ASC126-A001
MISCELLANEOUS		
	Control Head Bezel	1455140001
	Cover & Lens	1455100001
	Volume Up Button	1455040001
	Volume Down Button	1455040002
	Power Button	1455040003
	Channel Up Button	1455040004
	Channel Down Button	1455040005
	Function Lable f/Secondary Controls	1520060003
	XR/Series Inlay	1520080001
IC1030	LED Channel Display	5302650002
LDR1	Light Dependent Resistor	2303160002
	Springs f/Pushbuttons (5 used)	7344940002
	Door Assembly	7050580005

ATC433 TUNER CONTROL UNIT ASSEMBLY

Ref.	Description	Part No.
CONTROL ASSEMBLIES		
ADP019	TS-9 Channel Display Module	ADP019-A001
MISCELLANEOUS		
	Channel Select Knob	1455110003
	Volume Knob	1455110004
	Bar Knob f/Power	1456150002
	Control Housing	1455200003
	Plastic Pad	4419200060

ATC224 TUNER CONTROL UNIT ASSEMBLY

Ref.	Description	Part No.
CONTROL ASSEMBLIES		
ALD006	Stereo/SAP Indicator Module	ALD006-A001
	Keyboard (14 Button)	7027730001
MISCELLANEOUS		
	Channel Up/Down Buttons (2 used)	1455500003
	Channel Buttons (1-9, 9 used)	1455510001
	Ber Button (0)	1455520001
	Power Buton	1455500001
S S700	Power Switch	1607240001
	Volume Up/Down Buttons (2 used)	1455500002
	Retainer Clips f/Keyboard (5 used)	1455530001
	Bezel Asm. w/Crystal Inlay	7050460001
	Foam Pad	4419200055
IC1030	LED Channel Display	5302651001
	Wrap Around Terminal	2005660004
LDR1	Light Dependent Resistor	2303160002
P102	2 Pin Male Connector Housing	1808340002
	Female Contacts f/P102 (2 used)	1807250002
	3 Pin Connector w/contacts (f/LDR)	1815120003
	3 Pin Connector w/contacts (to Keyboard)	1815120003

ATC226 TUNER CONTROL UNIT ASSEMBLY

Ref.	Description	Part No.
CONTROL ASSEMBLIES		
ALD008	Stereo/SAP Indicator Module	ALD008-A001
ASW014	Five Function Scan Module	ASW014-A001
MISCELLANEOUS		
	Control Bezel	1455030001
	Crystal Inlay	1455020001
	Channel Button Up	1455040006
	Channel Button Down	1455040007
	Power Button	1455040003
	Volume Up Button	1455040001
	Volume Down Button	1455040002
IC1030	LED Channel Display	5302650002
LDR1	Light Dependent Resistor	2303160002
	Wrap Around Terminal	2005660004
	Main Bezel & Crystal Overlay	7050460002
	Tubular Clips (4 used)	1031570002
P102	2 Pin Male Connector Housing	1808340002
	Female Contacts f/P102 (2 used)	1807250002
	3 Pin Connector w/contacts (f/LDR)	1815120003

ATC227 TUNER CONTROL UNIT ASSEMBLY

Ref.	Description	Part No.
CONTROL ASSEMBLIES		
ALD007	Stereo/SAP Indicator Module	ALD007-A001
ASW013	Five Function Scan Module	ASW013-A001
MISCELLANEOUS		
	Bezel Assembly	7049960002
IC1030	LED Channel Display	5302650002
	Springs f/Pushbuttons (6 used)	7344940002
	Channel Button Up	1455370003
	Channel Button Down	1455370004
	Power Button	1455370005
	Volume Up Button	1455370001
	Volume Down Button	1455370002
	Ground Clip	7346770002

ATC228 TUNER CONTROL UNIT ASSEMBLY

Ref.	Description	Part No.
CONTROL ASSEMBLIES		
ALD007	Stereo/SAP Indicator Module	ALD007-A001
ASW013	Five Function Scan Module	ASW013-A001
MISCELLANEOUS		
	Bezel Assembly	7049960004
IC1030	LED Channel Display	5302650002
	Springs f/Pushbuttons (6 used)	7344940002
	Channel Button Up	1455370008
	Channel Button Down	1455370009
	Power Button	1455370010
	Volume Up Button	1455370006
	Volume Down Button	1455370007

ATC236 TUNER CLUSTER ASSEMBLY

Ref.	Description	Part No.
CONTROL ASSEMBLIES		
A10096	MCU Control Panel * (E.P.)	A10096-A001
A10236	MCU Control Panel * (L.P.)	A10236-A001
ASC134	Secondary Control Module	ASC134-A001
A10144	Remote Reciever Module (E.P.)	A10144-A002
A10157	Remote Reciever Module (L.P.)	A10157-A001
	UHF/VHF Tuner Module (125 Ch.)	3402620003
MISCELLANEOUS		
	Front Housing Bezel	1449470006
	Decorative Overlay w/Graphics	1517830023
	Keyboard Buttons (15 used)	1449630007
	Light Diffuser f/LDR	1449420001
	Light Filter f/IR Remote	1448390001
	Upper Support Bracket (Plastic)	1454000001
	Lower Support Bracket (Plastic)	1453480001
	Keyboard Retainer (Plastic)	1450160001
	Foam Cushion f/Keyboard	6451370001
	Pressure Pad Keyboard	7043700001
	Static Ground Clips (2 used)	1035740002
S	Capristor (Mounted on Terminal Strip)	2502330007
LDR1	Light Dependent Resistor	2303160002
IC1030	LED Channel Display	5302650001
C1036	Capacitor, 1000pF., 10%, 50V, Ceramic (f/IC1030)	2508281029
C1038	Capacitor, .01uF., 10%, 50V, Ceramic (f/IC1030)	2508311039
P1	5 Pin Connector Housing	1816140005
	Contacts f/P1 (3 used)	2006060001
P6	8 Pin Connector w/contacts	1817140008
	Negative Polarizing Key f/P6	1813510001
PL510	2 Pin Male Connector Housing	1811420001
	Female Contacts f/PL510 (2 used)	1809300001
CN1030	7 Pin Connector w/contacts	1813750007
CN1180	4 Pin Connector Housing	1811930004
	Contacts f/CN1180 (3 used)	1811330001
	4 Pin Connector Housing (to Remote Reciever Module)	1811930004
	Contacts f/the above connector (3 used)	1811330001
	Cable Asm. f/Prescaler Output	4614210003
P13	4 Pin Connector Housing	1812100004
	Contacts f/P13 (4 used)	1810110001
P15	1 Pin Connector Housing	1812100001
	Contact f/P15	1810110001
CN1300	4 Pin Connector w/contacts	1813802004
CN1302	5 Pin Connector w/contacts	1813802005
	Static Shield f/Keyboard (Foil, E.P.)	6453220007
	Insulator f/Keyboard (L.P.)	6456440002
	Shield Cover f/MCU Bd.	7344430001

ATC240 TUNER CONTROL UNIT ASSEMBLY

Ref.	Description	Part No.
CONTROL ASSEMBLIES		
A10219	Channel Select/Display Module	A10219-A001
ASC135	Secondary Control Module	ASC135-A001
MISCELLANEOUS		
	Front Panel Crystal	1455260003
	Channel Down Knob	1455280001
	Channel Up Knob	1455280002
	Power Knob	1455280003
	Volume Slide Knob	1455290001
	Main Bezel	1455440001
	Door	1455450001
	Secondary Control Inlay	1520190002
	Hinge Clips (2 used)	7338510005
	Key Spring	7344940001
LDR1	Light Dependent Resistor	2303160002
S S700	AC Switch	1606650004
	AC Switch Mtg. Bracket	7345560001
P1	5 Pin Connector Housing	1816140005
	Contacts f/P1 (2 used)	2006060001
P102	2 Pin Male Connector Housing	1808340002
	Female Contacts f/P102 (2 used)	1807250002
	3 Pin Connector w/contacts (to LDR)	1815120003

ATC249 TUNER CONTROL UNIT ASSEMBLY

Ref.	Description	Part No.
CONTROL ASSEMBLIES		
ASW003	Program Switch Module	ASW003-A001
ASC136	Secondary Control Module	ASC136-A001
MISCELLANEOUS		
	Bezel Asm.	7045190018
	Door & Inlay Asm.	7050620001
	Hinge Clips (2 used)	7338510005
	Foam Pad	4419200050
LDR1	Light Dependent Resistor	2303160002
IC1030	LED Channel Display	5302650001
C1036	Capacitor, 1000pF., 10%, 50V, Ceramic (f/IC1030)	2508281029
C1038	Capacitor, .01uF., 10%, 50V, Ceramic (f/IC1030)	2508311039
	Power Button	1447170006
	Buttons f/Channel Up-Down & Volume Up-Down (4 used)	1447170005

ATC253 TUNER CLUSTER ASSEMBLY

Ref.	Description	Part No.
CONTROL ASSEMBLIES		
A10098	MCU Control Panel * (E.P.)	A10098-A002
A10238	MCU Control Panel * (L.P.)	A10238-A001
ASC137	Secondary Control Module	ASC137-A001
A10144	Remote Reciever Module (E.P.)	A10144-A002
A10157	Remote Reciever Module (L.P.)	A10157-A001
	UHF/VHF Tuner Module (125 Ch.)	3402620003
MISCELLANEOUS		
	Front Housing Bezel	1449470006
	Decorative Overlay w/Graphics (-A001)	1517830013
	Decorative Overlay w/Graphics (-8002)	1520610002
	Keyboard Buttons (15 used)	1449630007
	Light Diffuser f/LDR	1449420001
	Upper Support Bracket (Plastic)	1454000001
	Lower Support Bracket (Plastic)	1453480001
	Red Filter f/IR Remote	1448390001
	Keyboard Retainer (Plastic)	1450160001
	Foam Cushion f/Keyboard	6451370001
	Pressure Pad Keyboard	7043700001
	Static Ground Clips (2 used)	1035740002
S	Capristor (Mounted on Terminal Strip)	2502330007
LDR1	Light Dependent Resistor	2303160002
IC1030	LED Channel Display	5302650001
C1036	Capacitor, 1000pF., 10%, 50V, Ceramic (f/IC1030)	2508311029
C1038	Capacitor, .01uF., 10%, 50V, Ceramic (f/IC1030)	2508311039
P1	5 Pin Connector Housing	1816140005
	Contacts f/P1 (3 used)	2006060001
P6	8 Pin Connector w/contacts	1817140008
PL510	2 Pin Male Connector Housing	1811420001
	Female Contacts f/PL510 (2 used)	1809300001
CN1030	7 Pin Connector w/contacts	1813750007
CN1032	7 Pin Connector w/contacts	1813750007
CN1180	4 Pin Connector Housing	1811930004
	Contacts f/CN1180 (3 used)	1811330001
	4 Pin Connector Housing (to Remote Reciever Module)	1811930004
	Contacts f/the above connector (3 used)	1811330001
	Cable Asm. F/Prescaler Output	4616310004
P13	4 Pin Connector Housing	1812100004
	Contacts f/P13 (4 used)	1810110001
P15	1 Pin Connector Housing	1812100001
	Contact f/P15	1810110001
CN1300	4 Pin Connector w/contacts	1813802004
CN1302	5 Pin Connector w/contacts	1813802005
	Static Shield f/Keyboard (Foil, E.P.)	6453220007
	Keyboard Insulator (L.P.)	6456440002
	Shield Cover f/MCU Bd.	7344430001

Courtesy of Manufacturer

A10240-A001 STEREO DECODER ASSEMBLY REPLACEMENT PARTS LIST (A10190-A001 THRU -B003)

Ref.	Description	Part No.
CAPACITORS		
(All are 20%, 50V, Ceramic Disc unless otherwise specified.)		
C1	2.2uF., Electrolytic	2701682050
C3, C4	.1uF., 100V, Polyester, (2 used)	2509591049
C6	47uF., 25V, Electrolytic	2701685125
C7	390pF., 5%, N750	2508393915
C8	2.2uF., Electrolytic	2701682050
C9	220pF., 2.5%, 100V, Polypropelene	2508772212
C10	.22uF., 100V, Polyester	2509592249
C11	.015uF., 5%, 100V, Polyester	2508801535
C12	15pF., 100V, Polyester	2509591549
C13	1uF., Electrolytic	2701681050
C14, C15	1000pF., 10%, (2 used)	2508281029
C16	2.2uF., Electrolytic	2701682050
C20	.1uF., 10%, Polyester	2509591049
C21	.1uF., 10%, Polyester	2509591049
C22	.1uF., 10%, Polyester	2509591049
C23	.1uF., 10%, Polyester	2509591049
C25	.1uF., 10%, Polyester	2509591049
C26	47uF., 25V, Electrolytic	2701685125
C27, C28	.022uF., 10%, (2 used)	2508302238
C29, C30	120pF., 10%, NPO, (2 used)	2508371219
C31	820pF., 5%, NPO	2508408215
C32	1500pF., 10%, 100V, Polyester	2508801529
C33	.022uF., 10%	2508302238
C34 thru C36	1uF., Electrolytic, (3 used)	2701681050
C37	.22uF., 10%, 100V, Polyester	2509592249
C38	1uF., Electrolytic	2701681050
C39, C40	10uF., Electrolytic, (2 used)	2701681150
C42, C43	10uF., Electrolytic, (2 used)	2701681150
C41	.01uF., 10%, 100V, Polyester (E.P.)	2508801039
C41	.01uF., 10%, (L.P.)	2508281039
C44, C45	4.7uF., Electrolytic, (2 used)	2701685050
C46	.22uF., 10%, 100V, Polyester	2509592249
C47	.01uF., 10%, 100V, Polyester (E.P.)	2508801039
C47	.01uF., 10%, (L.P.)	2508281039
C48	3600pF., 5%, 100V, Polyester	2508803625
C49, C50	4.7uF., Electrolytic, (2 used)	2701685050
C51	1000pF., 10% (L.P.)	2508281029
C51	.01uF., 10%, 100V, Polyester (E.P.)	2508801039
C201	10uF., Electrolytic, (E.P. only)	2701681150
C202	1uF., Electrolytic, (E.P.)	2701681050
C202	10uF., Electrolytic, (L.P.)	2701681150
C203	.0022uF., 5%	2508452225
C204, C205	.22uF., 10%, 100V, Polyester (2 used)	2509592249
CAPACITORS (Continued)		
C206, C207	3300pF., 5%, 100V, Polyester (2 used)	2508453325
C208	.0022uF., 5%	2508452225
C209	3300pF., 5%, 100V, Polyester	2508453325
C210	.033uF., 5%, 100V, Polyester	2508453335
C211	3.3uF., Electrolytic	2701343359
C212	4700pF., 10%, 100V, Polyester	2508804729
C213	3.3uF., Electrolytic	2701683050
C214	47uF., Electrolytic	2701344769
C215	10uF., Electrolytic	2701681150
C216	47uF., Electrolytic	2701344769
C217	4700pF., 10%, 100V, Polyester	2508804729
C218	1uF., Electrolytic	2701681050
C219	.01uF., 5%, 100V, Polyester	2508451035
C220	10uF., Electrolytic	2701341069
C221	1uF., Electrolytic	2701681050
C222	.0022uF., 5%	2508452225
C223	4.7uF., Electrolytic	2701685050
C224	.01uF., 10%, 100V, Polyester (E.P.)	2508801039
C224	.01uF., 10%, (L.P.)	2508281039
C225	1uF., Electrolytic	2701681050
C226	1uF., Electrolytic, (E.P.)	2701681050
C226	10uF., Electrolytic, (L.P.)	2701681150
C227	220uF., 25V, Electrolytic, (L.P. only)	2701682225
C228	.47uF., Electrolytic	2508144749
C229	3300pF., 5%, 100V, Polyester	2508453325
C232	.1uF., 10%, 100V, Polyester	2509591049
C301	220uF., 25V, Electrolytic	2701682225
C302	.022uF., 10%	2508302238
C303	4700pF., +80 -20%	2508304728
C304	.02uF., 30%, 25V, (Tubular)	2507502234
C305	1000pF., 10% (L.P.)	2508281029
C305	1000pF., 5%, 100V, Polyester (E.P.)	2508801025
C306, C307	.022uF., 10%, (2 used)	08302238
RESISTORS		
(All are 5%, ¼W, Carbon Film unless otherwise specified.)		
R5, R6	27k, (2 used)	2302812735
R7	3.3k	2302813325
R9	1.5k	2302811525
R10	2.2k	2302812225
R11	120k	2302811245
R12	91k, (E.P.)	2302819135
R12	100k, 2%, (L.P.)	2302811042
R14	470k	2302814745

A10240-A001 STEREO DECODER ASSEMBLY REPLACEMENT PARTS LIST (CONT'D) (A10190-A001 THRU -B003)

Ref.	Description	Part No.
RESISTORS (Continued)		
R15	22k	2302812235
R16	150k	2302811545
R17, R18	5.1k, 2%, (2 used)	2302815122
R19	4.7k, 2%	2302814722
R21	4.7k, 2%	2302814722
R28	4.7k	2302814725
R32	5.1k	2302815125
R33	330 ohm	2302813315
R34	3k	2302813025
R35	15k	2302811535
R36, R37	39k, (2 used)	2302813935
R38	220k	2302812245
R39	470k	2302814745
R40	47k	2302814735
R41	1.5k, (E.P.)	2302811525
R41	1.8k, (L.P.)	2302811825
R42	1.3k, (E.P.)	2302811325
R42	1.5k, (L.P.)	2302811525
R43	470k	2302814745
R44	75 ohm, (L.P. only)	2302817505
R45	300k	2302813045
R46	4.7k	2302814725
R47	10k	2302811035
R51	10k, 10%	2302031039
R52	470 ohm, ½W	2302824715
R53	4.7k, 2%	2302814722
R56	750 ohm	2302817515
R57	680 ohm, ½W	2302826815
R58	100k	2302811045
R59	1200 ohm	2302811225
R60	100k	2302811045
R61	1200 ohm	2302811225
R62	47k	2302814735
R63, R64	4.7k, 2%, (2 used)	2302814722
R65, R66	20k, (2 used)	2302812035
R67, R68	5.6k, (2 used - E.P. only)	2302815625
R69 thru R72	10k, 2%, (4 used)	2302811032
R73	20k, 2%	2302812032
R74	10k, 2%	2302811032
R77	4.7k, (E.P. only)	2302814725
R78	10k	2302811035
R79	47k	2302814735
R80	47k, (E.P.)	2302814735
R80	47k, 2%, (L.P.)	2302814732
R81	47k, (E.P.)	2302814735
R81	47k, 2%, (L.P.)	2302814732
R82	47k, (E.P.)	2302814735
R82	47k, 2%, (L.P.)	2302814732
R83	47k	2302814735
R84	47k	2302814735
R85	47k, (E.P.)	2302814735
R85	47k, 2%, (L.P.)	2302814732
R86	47k	2302814735
R87	1.8k	2302811825
R88	3.3k	2302813325
R201	10k	2302811035
R202	33k	2302813335
R203	20k	2302812035
R204	3.3k	2302813325
R205, R206	180k, (2 used)	2302811845
R207	3.6k	2302813625
R208, R209	4.7k, (2 used)	2302814725
R210	22k	2302812235
R211	27k	2302812735
R212, R213	3.3k, (2 used)	2302813325
R214, R215	4.7k, (2 used)	2302814725
R216	68k	2302816835
R217	150 ohm	2302811515
R218	3.3k	2302813325
R219	39k	2302813935
R220	5.1k	2302815125
R221	150 ohm	2302811515
RESISTORS (Continued)		
R222, R223	180k, (2 used)	2302811845
R224	3.6k	2302813625
R225	5.6k, (E.P.)	2302815625
R225	10k, (L.P.)	2302811035
R228	10k	2302811035
R230	10k	2302811035
R232	10k	2302811035
R234	100k	2302811045
R236	820 ohm, (E.P.)	2302818215
R236	680 ohm, (L.P.)	2302816815
R240	1k, 2%	2302811022
R244	3.6k	2302813625
R246	2.2k	2302812225
R301	15k	2302811535
R302	100 ohm	2302811015
R304, R305	1k, (2 used)	2302811025
CONTROLS		
VR1	100k, Signal Level Adj.	2203021042
VR13	22k, VCO Frequency Level Adj.	2203022232
VR55	1K S.A.P. Level Adj.	2203021022
VR75	1k L + R Adj.	2203021022
VR76	1k L - R Adj.	2203021022
VR225	50k, 8kHz Adj.	2203025032
VR250	2.2k, Timing Adj.	2203022222
COILS & TRANSFORMERS		
L1	S.A.P. Trap, 10mH	3619870004
L2	22mH., Coil, (E.P.)	3620252235
L2	22mH., Coil, (L.P.)	3620252239
L301	Sound Discriminator	3619680002
LPF1	Main Low-Pass Filter	3620150001
LPF2	Main Low-Pass Filter	3620150001
LPF3	S.A.P. Low-Pass Filter	3620140001
FL1	S.A.P. Band-Pass Filter	3620180001
FL302	4.5 MHz Filter	3617960002
SEMICONDUCTORS		
IC1	Time Multiplex PLL Stereo Decoder	6124690001
IC2	FM/IF Amp.	6124680001
IC3	3 x 2 Channel Multiplex Analog Demultiplexer	6124930001
IC4	+15V Regulator	6124790005
IC5	+8V Regulator	6124790003
IC6	Quad Input Amp.	6124800001
IC7	Quad Input Amp.	6124800001
IC201	dBX Expander	6124890001
IC203	Expander Amp.	6123590001
IC304	IF Amp./Demodulator	6123700001
Q2	NPN Transistor, Buffer	6102320002
Q3	NPN Transistor, Audio Amp./ Squelch	6102320002
Q5	NPN Transistor, Signal Strength Detector	6102320002
Q6	PNP Transistor, LED Driver	6100830001
Q201	NPN Transistor, Buffer	6102320002
Q202	NPN Transistor, Main Channel Driver	6102320002
Q203	NPN Transistor, High-Pass Active Filter	6102320002
D1	Silicon Diode	5301811001
D2	Silicon Diode, f/Squelch	5301811001
ZD200	Zener Diode, 6.8V	5301571689
MISCELLANEOUS		
	5 Pin Contact Wafer f/PD3 (Pin 3 Keyed)	1813620035
	2 Pin Contact Wafer f/PD4	1813620002
	6 Pin contact Wafer f/P14 (Pin 3 Keyed)	1813620036
J33	Phono Jack	1813420001
	Heatsink f/Regulators	7346780001
	Replacement Panel w/components (no frame)	A10190-B003

Courtesy of Manufacturer

ATC272 TUNER CLUSTER ASSEMBLY

Ref.	Description	Part No.
CONTROL ASSEMBLIES		
A10098	MCU Control Panel * (E.P.)	A10098-A002
A10238	MCU Control Panel * (L.P.)	A10238-A001
ASC103	Secondary Control Module	ASC103-A001
A10144	Remote Reciever Module (E.P.)	A10144-A002
A10157	Remote Reciever Module (L.P.)	A10157-A001
	UHF/VHF Tuner Module (125 Ch.)	3402620003
MISCELLANEOUS		
	Front Housing Bezel	1449470006
	Decorative Overlay w/Graphics (-A001)	1517830013
	Decorative Overlay w/Graphics (-B002)	1520610002
	Keyboard Buttons (15 used)	1449630007
	Light Diffuser f/LDR	1449420001
	Upper Support Bracket (Plastic)	1454000001
	Lower Support Bracket (Plastic)	1453480001
	Red Filter f/IR Remote	1448390001
	Keyboard Retainer (Plastic)	1450160001
	Foam Cushion f/Keyboard	6451370001
	Pressure Pad Keyboard	7043700001
	Static Ground Clips (2 used)	1035740002
S	Capristor (Mounted on Terminal Strip)	2502330007
LDR1	Light Dependent Resistor	2303160002
IC1030	LED Channel Display	5302650001
C1036	Capacitor, 1000pF., 10%, 50V, Ceramic (f/IC1030)	2508311029
C1038	Capacitor, .01uF., 10%, 50V, Ceramic (f/IC1030)	2508311039
P1	5 Pin Connector Housing	1816140005
	Contacts f/P1 (3 used)	2006060001
P6	8 Pin Connector w/contacts	1817140008
PL510	2 Pin Male Connector Housing	1811420001
	Female Contacts f/PL510 (2 used)	1809300001
CN1030	7 Pin Connector w/contacts	1813750007
CN1032	7 Pin Connector w/contacts	1813750007
CN1180	4 Pin Connector Housing	1811930004
	Contacts f/CN1180 (3 used)	1811330001
	4 Pin Connector Housing (to Remote Reciever Module)	1811930004
	Contacts f/the above connector (3 used)	1811330001
	Cable Asm. F/Prescaler Output	4616310004
P13	4 Pin Connector Housing	1812100004
	Contacts f/P13 (4 used)	1810110001
P15	1 Pin Connector Housing	1812100001
	Contact f/P15	1810110001
CN1300	4 Pin Connector w/contacts	1813802004
CN1302	5 Pin Connector w/contacts	1813802005
	Static Shield f/Keyboard (Foil, E.P.)	6453220007
	Keyboard Insulator (L.P.)	6456440002
	Shield Cover f/MCU Bd.	7344430001

ATC274 TUNER CONTROL UNIT ASSEMBLY

Ref.	Description	Part No.
CONTROL ASSEMBLIES		
A10222	Channel Select/Display Module	A10222-A001
ASC135	Secondary Control Module	ASC135-A001
MISCELLANEOUS		
	Control Head Bezel & Crystal	7050550002
	Support Bracket f/Rem. Rec.	1455200003
	Function Lable f/Secondary Cont.	1520160002
	Door f/Secondary Cont.	1455780005
	Overlay f/Door	1520350004
LDR1	Light Dependent Resistor	2303160002
	Spacer f/LDR	1456290001
	Channel Select Knob	1455110001
	Volume Control Knob	1455110002
	Bar Knob f/Power On-Off Control	1456150001
	Hinge Clips f/Door (2 used)	7338510003
	Hinge Spring f/Door	7346650002

ATC430 TUNER CONTROL UNIT ASSEMBLY

Ref.	Description	Part No.
CONTROL ASSEMBLIES		
ADP018	TS-9 Channel Display Module	ADP018-A001
MISCELLANEOUS		
	Channel Select Knob	1455110003
	Volume Knob	1455110003
	Bar Knob f/Power	1456150002
	Control Housing	1455200003
	Plastic Pad	4419200060

ATC275 TUNER CONTROL UNIT ASSEMBLY

Ref.	Description	Part No.
CONTROL ASSEMBLIES		
A10223	Channel Select/Display Module	A10223-A001
ASC135	Secondary Control Module	ASC135-A001
MISCELLANEOUS		
	Channel Up Button	1455040004
	Channel Down Button	1455040005
	Volume Up Button	1455040001
	Volume Down Button	1455040002
	Power Button	1455040003
	Function Lable f/Secondary Cont.	1520060004
LDR1	Light Dependent Resistor	2303160002
	Door Assembly	7050580004
	Springs f/Pushbuttons (5 used)	7344940002
	Control Head Bezel	1455140002
	Lens	1455150002
P102	2 Pin Male Connector Housing	1808340002
	Female Contacts f/P102 (2 used)	1807250002
	3 Pin Connector w/contacts (f/LDR)	1815120003

ATC277 TUNER CONTROL UNIT ASSEMBLY

Ref.	Description	Part No.
CONTROL ASSEMBLIES		
ALD016	LED Indicator Module	ALD016-A001
ASW022	Five Function Scan Module	ASW022-A001
ASW023	Program Switch Module	ASW023-A001
ASC150	Secondary Control Module	ASC150-A001
MISCELLANEOUS		
	Control Bezel Asm. (-A001)	7050280003
	Control Bezel Asm. (-A002 & -B003)	7050280025
	Volume Up Button	1455040011
	Volume Down Button	1455040010
	Power Button	1455040012
	Channel Up Button	1455040009
	Channel Down Button	1455040008
	Door Latch	1219940001
IC1030	LED Channel Display	5302650001
C1038	Capacitor, .01uF., 10%, 50V, Ceramic (f/IC1030)	2508311039
	Static Shield	7346480001
	Spade Lug Connectors (2 used)	2005590001
CN1030	7 Pin Connector w/contacts	1813750007
CN1032	9 Pin Connector w/contacts	1813750009
	Negative Polarizing Keys f/CN1032 (2 used)	1813760001

ATC279 TUNER CONTROL UNIT ASSEMBLY

Ref.	Description	Part No.
CONTROL ASSEMBLIES		
ALD015	LED Indicator Module	ALD015-A001
ASW024	Six Function Scan Module	ASW024-A001
ASC150	Secondary Control Module	ASC150-A001
MISCELLANEOUS		
	Control Bezel Asm. (-A001)	7050280007
	Control Bezel Asm. (-A002)	7050280029
	Overlay (Primary Control)	1456210001
	Keyboard (15 Function)	7027720005
	Channel Sellect Buttons (12 used)	1456220001
	Power Bar Button	1456240001
	Volume Bar Button	1456560003
	Clamp f/Keyboard	1456400001
	Door Latch	1219940001
IC1030	LED Channel Display	5302650001
C1038	Capacitor, .01uF., 10%, 50V, Ceramic (f/IC1030)	2508311039
	Static Shield	7346480001
	Spade Lug Connectors (2 used)	2005590001
CN1030	7 Pin Connector w/contacts	1813750007
CN1032	9 Pin Connector w/contacts	1813750009
	Negative Polarizing Keys f/CN1032 (2 used)	1813760001
CN1100	9 Pin Connector w/contacts	1813750009
	9 Pin Connector w/contacts (f/Keyboard)	1813750009
	Negative Polarizing Keys (f/CN1100 & Keyboard Connectors - 2 used)	1813760001

ATC284 TUNER CONTROL UNIT ASSEMBLY

Ref.	Description	Part No.
CONTROL ASSEMBLIES		
A10208	Channel Display Module	A10208-A001
ASW025	Five Function Scan Module	ASW025-A001
ASC151	Secondary Control Module	ASC151-A001
MISCELLANEOUS		
	Control Bezel Asm. (-A001)	7050280005
	Control Bezel Asm. (-A002)	7050280027
	Volume Up Button	1455040011
	Volume Down Button	1455040010
	Power Button	1455040012
	Channel Up Button	1455040009
	Channel Down Button	1455040008
	Door Latch	1219940001
	Spacers f/Buttons (5 used)	6454830001

ATC305 TUNER CONTROL UNIT ASSEMBLY

Ref.	Description	Part No.
CONTROL ASSEMBLIES		
ALD020	Channel Select/Display Module	ALD020-A001
ASC158	Secondary Control Module	ASC158-A001
MISCELLANEOUS		
	Control Bezel	1455440005
	Front Panel Crystal	1455260004
	Secondary Control Door	1455450001
	Function Lable Inlay f/Secondary Cont.	1520190003
	Clip Hinges f/Secondary Control Door (2 used)	7338510005
	Channel Up Button	1455670011
	Channel Down Button	1455670012
	Volume Up Button	1455670013
	Volume Down Button	1455670014
	Power Button	1455670015
	Lens f/IR Remote	1520360001
LDR1	Light Dependent Resistor	2303160002
P102	2 Pin Male Connector Housing	1808340002
	Female Contacts f/P102 (2 used)	1807250002
	3 Pin Connector w/contacts, f/LDR	1815120003

ATC311 TUNER CONTROL UNIT ASSEMBLY

Ref.	Description	Part No.
CONTROL ASSEMBLIES		
ALD021	Channel Select/Display Module	ALD021-A001
ASW028	Cable/Normal Switch Module	ASW028-A001
ASC159	Secondary Control Module	ASC159-A001
MISCELLANEOUS		
	Control Head Bezel	1455140002
	Control Overlay	1520080001
	Door Assembly	7050580005
	Inlay f/Secondary Controls	1520060006
	Brace f/P.C. Board	1457810002
	Lens	1455150001
	Volume Up Button	1455040001
	Volume Down Button	1455040002
	Power Button	1455040003
	Channel Up Button	1455040004
	Channel Down Button	1455040005
LDR1	Light Dependent Resistor	2303160002
D451	LED Channel Display	5302650001
	Shield	7343180001

ATC348 TUNER CONTROL UNIT ASSEMBLY

Ref.	Description	Part No.
CONTROL ASSEMBLIES		
A10221	Channel Select/Display Module	A10221-A001
ASC135	Secondary Control Module	ASC135-A001
MISCELLANEOUS		
	Control Head Bezel	1455440005
	Front Panel Crystal	1455260004
	Crystal f/IR Remote	1520360001
LDR1	Light Dependent Resistor	2303160002
	Secondary Control Door	1455450001
	Clip Hinges f/Door (2 used)	7338510005
	Function Lable f/Secndary Cont.	1520190001
	Channel Up Button	1455670006
	Channel Down Button	1455670007
	Volume Down Button	1455670008
	Volume Up Button	1455670009
	Power Button	1455670010
P102	2 Pin Male Connector	1808340002
	Female Contacts f/P102 (2 used)	1807250002
	3 Pin Connector w/contacts	1815120003

ATC352 TUNER CLUSTER ASSEMBLY

Ref.	Description	Part No.
CONTROL ASSEMBLIES		
A10284	Keyboard Interconnect Asm. (see individual parts list)	-----
ASC171	Secondary Control Module	ASC171-A001
A10138	Remote Reciever Module	A10138-A002
A10204	TS-9 Tuner Control Module	A10204-A001
340291	Tuner Module	3402910001
MISCELLANEOUS		
LDR1	Light Dependent Resistor	2303160002
D451	Channel Display	5303200001
	Spring Clips (2 used)	7347680001
	Keep Alive Cable Asm.	-----
CN1040	-2 Pin Connector	1812100002
	-Contacts f/CN1040 (2 used)	1810110001
PL510	-2 Pin Male Connector Housing	1811420001
	-Female Contacts f/PL510 (2 used)	1809300001
	Coax Cable Asm. (Tuner to TS-9)	-----
	-Phono Plug	1813730001
CN1660	-2 Pin Connector	1812101002
	-Contacts f/CN1660 (2 used)	1810110001
	Cable Asm. (CN1600 to Tuner)	-----
CN1600	-4 Pin Connector w/contacts	1816500004
	-Polarizing Key f/CN1600	1816510001
P30	-4 Pin Connector w/contacts	1816500004
	Cable Asm. (CN1650 to Tuner)	-----
CN1650	-6 Pin Connector w/contacts	1817140006
	-Negative Polarizing Key f/CN1650	1813510001
	-5 Pin Connector w/contacts	1817140005
	Cable Asm. (CN1200 to P6)	-----
CN1200	-9 Pin Connector w/contacts	1816500009
P6	-8 Pin Connector w/contacts	1816500008
P15	-1 Pin Connector	1812100001
	-Contact f/P15	1810110001
	Cable Asm. (CN1550 to P13)	-----
CN1550	-6 Pin Connector	1812100006
	-Contacts f/CN1550 (4 used)	1810110001
	-Negative Polarizing Key f/CN1550	1810760001
P13	-4 Pin Connector	1812101004
	-Contacts f/P13 (4 used)	1810110001
	Cable Asm. (Rem. Rec. to TS-9)	-----
	-4 Pin Connector w/contacts (2 used)	1816520004

ATC356 TUNER CLUSTER ASSEMBLY

Ref.	Description	Part No.
CONTROL ASSEMBLIES		
A10283	Keyboard Interconnect Asm. (see individual parts list)	-----
ASC156	Secondary Control Module	ASC156-A001
A10138	Remote Reciever Module	A10138-A002
A10202	TS-9 Tuner Control Module	A10202-A001
340291	Tuner Module	3402910001
MISCELLANEOUS		
LDR1	Light Dependent Resistor	2303160002
D451	Channel Display	5303200001
	Spring Clips (2 used)	7347680001
P1	5 Pin Connector Housing	1816140005
	Contacts f/P1 (3 used)	2006060001
	Keep Alive Cable Asm.	-----
CN1040	-2 Pin Connector	1812100002
	-Contacts f/CN1040 (2 used)	1810110001
PL510	-2 Pin Male Connector Housing	1811420001
	-Female Contacts f/PL510 (2 used)	1809300001
	Coax Cable Asm. (Tuner to IF Input)	4616110007
	-Phono Plugs (2 used)	1813730002
	Coax Cable Asm. (Tuner to TS-9)	-----
	-Phono Plug	1813730002
CN1660	-2 Pin Connector	1812101002
	-Contacts f/CN1660 (2 used)	1810110001
	Cable Asm. (CN1600 to Tuner)	-----
CN1600	-4 Pin Connector w/contacts	1816500004
	-Polarizing Key f/CN1600	1816510001
P30	-4 Pin Connector w/contacts	1816500004
	Cable Asm. (CN1650 to Tuner)	-----
CN1650	-6 Pin Connector w/contacts	1817140006
	-Negative Polarizing Key f/CN1650	1813510001
	-5 Pin Connector w/contacts	1817140005
	Cable Asm. (CN1200 to P6)	-----
CN1200	-9 Pin Connector w/contacts	1816500009
P6	-8 Pin Connector w/contacts	1816500008
P15	-1 Pin Connector	1812100001
	-Contact f/P15	1810110001
	Cable Asm. (CN1550 to P13)	-----
CN1550	-6 Pin Connector	1812100006
	-Contacts f/CN1550 (4 used)	1810110001
	-Negative Polarizing Key f/CN1550	1810760001
P13	-4 Pin Connector	1812101004
	-Contacts f/P13 (4 used)	1810110001
	Cable Asm. (Rem. Rec. to TS-9)	-----
	-4 Pin Connector w/contacts (2 used)	1816520004

Courtesy of Manufacturer